UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
Seattle, Washington

Diamond Wanapa I, L.P.
Wanapa Energy Center

Prevention of Significant Deterioration (PSD)
R10PSD-OR-05-01

RESPONSE TO PUBLIC COMMENTS

August 8, 2005

ABBREVIATIONS AND ACRONYMS

Compounds
CH_4: methane
CO: carbon monoxide
H_2SO_4: sulfuric acid mist
NH_3: ammonia
NO_2: nitrogen dioxide (subset of NO_X)
NO_X: nitrogen oxides
O_2: oxygen
O_3: ozone
$PM_{2.5}$: particulate matter with an aerodynamic diameter less than 2.5 micrometers (subset of PM_{10})
PM_{10}: particulate matter with an aerodynamic diameter less than 10 micrometers
SO_2: sulfur dioxide
VOC: volatile organic compound

Acronyms
AAQIA: ambient air quality impact analysis
AQRV: air quality related values
BA: biological assessment
BACT: best available control technology
BIA: United States Department of Interior Bureau of Indian Affairs
BOR: United States Department of Interior Bureau of Reclamation
BPA: United States Department of Energy Bonneville Power Administration
CAA: Clean Air Act
CAMD: Clean Air Markets Division
CEMS: continuous emissions monitoring system
CFR: Code of Federal Regulations
CT: combustion turbine
CTUIR: Confederated Tribes of the Umatilla Indian Reservation
DB: duct burner
DEIS: draft environmental impact statement
Diamond: Diamond Wanapa I, L.P.
EAB: Environmental Appeals Board
EFH: essential fish habitat
EIS: environmental impact statement
EPA: United States Environmental Protection Agency
ESA: Endangered Species Act
ESECA: Energy Supply and Environmental Coordination Act
EUSGU: electric utility steam generating unit
FR: Federal Register
FWS: United States Department of Interior's Fish and Wildlife Service
GTN: Gas Transmission Northwest Corporation
HAP: hazardous air pollutant
HHV: higher heating value

HRSG: heat recovery steam generator
LHV: lower heating value
MW: megawatt
MSA: Magnuson-Stevens Fishery Conservation and Management Act
NAAQS: National Ambient Air Quality Standards
NEPA: National Environmental Policy Act
NESHAP: National Emission Standards for Hazardous Air Pollutants
NOAA Fisheries: National Marine Fisheries Service within the United States Department of Commerce's National Oceanic and Atmospheric Administration
NPDES: National Pollutant Discharge Elimination System
NSPS: New Source Performance Standards
NSR: New Source Review
NWS: National Weather Service
ODEQ: Oregon Department of Environmental Quality
PPS: Preliminary Performance Specification
PS: Performance Specification
PSD: Prevention of Significant Deterioration
ROD: Record of Decision
SCR: selective catalytic reduction
SER: significant emission rate
ST: steam turbine
TDS: total dissolved solids
TPY: tons per year
TSD: technical support document for PSD Permit No. R10PSD-OR-05-01
USFWS: United States Fish and Wildlife Service
WEC: Wanapa Energy Center

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1. BACKGROUND

On August 8, 2003, Diamond Wanapa I, L.P. (Diamond) submitted an application to the United States Environmental Protection Agency, Region 10 (EPA) for a Prevention of Significant Deterioration (PSD) permit to construct and operate the Wanapa Energy Center (WEC). WEC is to be located near Umatilla, Oregon on land held in trust by the United States government for the benefit of the Confederated Tribes of the Umatilla Indian Reservation (CTUIR). Diamond submitted a revised dispersion modeling analysis on September 28, 2004. Additional dispersion modeling information was submitted October 28, 2004 and November 1, 2004.

On November 23, 2004, EPA provided public notice of the preliminary approval of the application for WEC, proposed PSD Permit No. R10PSD-OR-05-01 (Permit), and preliminary technical support document (TSD). The public notice stated that the public had the opportunity to comment upon the Permit. The public notice was performed by mailing it to a list of interested persons and by publication of a legal notice in the East Oregonian (November 23, 2004) and Hermiston Herald (November 23, 2004).

Copies of the draft Permit and associated TSD were made available for public review in the following public libraries and offices: Oregon Trail Public Library in Boardman, Umatilla Public Library, Mid-Columbia Library in Kennewick, Hermiston Public Library, Echo Public Library, Pendleton Public Library, Stanfield Public Library, EPA Region 10 Seattle Office, Oregon Department of Environmental Quality (ODEQ) Eastern Region Pendleton Office, CTUIR Tribal Administration Building, and on EPA's web site at http://yosemite.epa.gov/R10/AIRPAGE.NSF/webpage/WANAPA+Energy+Center.

A public hearing was held on January 5, 2005 in Hermiston, Oregon. The public comment period was originally scheduled to close on January 5, 2005. On December 21, 2004, however, EPA announced its decision to extend the public comment period to January 19, 2005. Public notice of the comment period extension was performed by mailing it to a list of interested persons and by publication of a legal notice in the East Oregonian (December 21, 2004) and Hermiston Herald (December 21, 2004). To be considered, comments had to be postmarked, or sent by e-mail, to EPA no later than the close of the public comment period, on January 19, 2005.

EPA received fourteen written comment letters, and six individuals commented at the public hearing. EPA appreciates the valuable input provided by the community. The nature and extent of the comments indicates that members of the community took the time to learn about a wide range of complex issues surrounding WEC. EPA understands that the community possesses a wide range of legitimate views, perceptions, and concerns. Many of the issues are difficult to resolve in the context of an air construction permit given EPA's PSD permitting regulations. Nonetheless, EPA has made a good-faith effort to do its best to respond to the community.

The following pages summarize the comments that were received and indicate how the concerns are addressed in the final Permit issued by EPA. Some of the comments have been paraphrased or generalized to allow direct responses to the concerns.

Copies of this document and the final Permit are available over the Internet at http://yosemite.epa.gov/R10/AIRPAGE.NSF/webpage/WANAPA+Energy+Center. Copies are also available at the following locations:

Oregon Trail Public Library
200 S Main
Boardman, OR 97818
(541) 481-2665

Hermiston Public Library
235 E Gladys Avenue
Hermiston, OR 97838-1827
(541) 567-2882

Pendleton Public Library
502 SW Dorion
Pendleton, OR 97801-2035
(541) 966-0380

Umatilla Public Library
911 Seventh Street
Umatilla, OR 97882
(541) 922-5704

Echo Public Library
20 S Bonanza
Echo, OR 97826-0009
(541) 378-8411

Stanfield Public Library
180 W Coe Avenue
Stanfield, OR 97875-0978
(541) 449-1254

Mid-Columbia Library
405 S Dayton
Kennewick, WA 99336
(509) 783-7878

Oregon Department of
Environmental Quality
Eastern Region
700 S.E. Emigrant, Suite 330
Pendleton, OR 97801
(541) 276-4063

Confederated Tribes of the Umatilla
Indian Reservation
Tribal Administration Building
73239 Confederated Way
Pendleton, OR 97801
(541) 276-3165

EPA Region 10
Attn: Dan Meyer (AWT-107)
1200 Sixth Avenue
Seattle, WA 98101
(206) 553-4150

2. GENERAL COMMENTS AND RESPONSES

General Comment 1: EPA should not issue the Permit because WEC is not in the public interest.

Response 1: EPA is the PSD permitting authority with the responsibility for either granting or denying Diamond's PSD permit application to construct and operate WEC. In determining whether to grant a PSD permit application, EPA must follow the Clean Air Act (CAA) and its implementing regulations. Additional requirements that EPA must comply with are found in the Endangered Species Act (ESA) and the Magnuson-Stevens Fishery Conservation and Management Act (MSA). These statutes were enacted by the U.S. Congress to protect the public interest in the natural resources. By complying with the requirements of these statutes, EPA has fulfilled its statutory obligations, and thus has protected the public interest in protecting the public interest as established by the U.S. Congress. Therefore, EPA is proceeding to issue the final Permit to Diamond to construct WEC.

General Comment 2: WEC will not benefit the local community.

Comment 2.a: Diamond will not pay property taxes to support the local community because WEC is located on tribal land.

Response 2.a: EPA appreciates this comment. In issuing a PSD permit, such as this one, however, EPA's role is to determine if Diamond's application meets federal laws and regulations required to be met before issuing a PSD permit. Under the federal laws and regulations, the payment of property taxes is not a factor that EPA can consider in determining whether to issue a PSD permit. EPA has determined that Diamond's application satisfies all applicable federal laws and regulations. Therefore, EPA is proceeding to issue the final Permit to Diamond to construct WEC.

It should be noted that WEC's socioeconomic impacts, including the payment of property taxes, were considered during the National Environmental Policy Act (NEPA) process undertaken by the Bureau of Indian Affairs (BIA) in determining whether to grant the lease between the CTUIR and Diamond. See §3.10 of the Final Environmental Impact Statement (Final EIS) for a discussion of WEC's socioeconomic impacts. In responding to public comments, BIA states, in part:

> The project would pay local property taxes, contribute directly to school district, fire districts, county road maintenance and promote other economic development in the region. [T]he ancillary pipeline and other facilities within State jurisdiction would be subject to county property taxes. The approximately three years of construction would increase County tax revenues due to personal property taxes on contractor equipment. In addition, the hundreds of construction jobs along with approximately 40 permanent jobs created … would result in hundreds of employees paying state income taxes. Because of the high wages

> involved, many of these employees are likely [to] become homeowners and pay (county) property taxes as well. Most importantly, the project would pay property taxes to the entity having jurisdiction… [CTUIR]. This tax is used to provide police, fire, and emergency response services that widely benefit resident[s] of Umatilla County including the non-Indian residents of the Umatilla Indian Reservation. These services are provided tax-free to travelers on I-84, and the residents of the neighboring towns who receive Tribal police, fire and emergency response assistance through mutual aide agreements.

See Final EIS at Appendix D, Response to Comment Letter 6 from the Umatilla County Board of Commissioners.

Comment 2.b: WEC will degrade the overall quality of life in the community as it fails to generate any local benefits.

Response 2.b: As stated in General Comment Response 2.a, above, EPA cannot consider socioeconomic impacts in issuing a PSD permit. EPA has determined that Diamond's application satisfies all applicable federal laws and regulations. Therefore, EPA is proceeding to issue the final Permit to Diamond to construct WEC.

As discussed above, the Final EIS prepared and issued by BIA took into consideration WEC's socioeconomic impacts and found that WEC will benefit the local community. See Final EIS at §3.10 and Appendix D.

Comment 2.c: WEC will consume local airshed capacity making it more difficult for construction of new emissions sources in the area that will be located off tribal land, and thus will not benefit the local community.

Response 2.c: As stated in General Comment Responses 2.a and 2.b, above, EPA cannot consider socioeconomic impacts in issuing a PSD permit**.** EPA has determined that Diamond's application satisfies all applicable requirements. Therefore, EPA is proceeding to issue the final Permit to Diamond to construct WEC.

Although EPA cannot consider socioeconomic impacts in issuing a PSD permit, such as this one, BIA did consider such impacts in the Final EIS. BIA found that WEC would benefit the local community. See Final EIS at §3.10 and Appendix D.

In addition, while WEC will emit air pollutants into the atmosphere, WEC's emissions will not necessarily preclude the construction and operation of other pollutant emitting sources in the local area. The determination of whether a stationary source or a modification to a stationary source can be undertaken in an area that is meeting attainment of the National Ambient Air Quality Standards (NAAQS) is done on a case-by-case basis. The determination is dependent on many factors including, but not limited to, the proposed source's location, emission rates, control equipment, model predicted

concentrations, and representative background air quality levels. At this time, one cannot conclude that construction of additional air emission sources will be prohibited.

General Comment 3: An analysis of existing ambient air quality in the area around WEC has not been adequately conducted.

Comment 3.a: Fine particulate matter[1] ($PM_{2.5}$) monitoring data from Pendleton, Oregon is not representative of existing ambient air quality in the area to be impacted by WEC emissions.

Response 3.a: EPA did not utilize $PM_{2.5}$ monitoring data from Pendleton, Oregon. Instead, EPA utilized PM_{10} monitoring data from Boardman, Oregon and used this monitoring data as a surrogate for $PM_{2.5}$ monitoring data in meeting the PSD requirements. This approach is consistent with EPA's policy concerning $PM_{2.5}$ which is set forth in a memorandum entitled, "Interim Implementation of NSR Requirements for $PM_{2.5}$," dated October 23, 1997 ($PM_{2.5}$ Memo).[2] The $PM_{2.5}$ Memo states that PM_{10} may be used as a surrogate for $PM_{2.5}$ in meeting the NSR requirements including PSD requirements until proper tools, procedures, and models have been developed to review $PM_{2.5}$.

The $PM_{2.5}$ monitor in Pendleton is part of a larger monitoring network enabling the States to recommend air quality designations to EPA. On January 26, 2004, the Governor of Oregon recommended to EPA that all counties in Oregon be designated attainment/unclassifiable. In accordance with this recommendation, EPA's corresponding attainment/unclassifiable designation became effective April 5, 2005. As a result, EPA has modified the permit to reflect the $PM_{2.5}$ designations. See Final Permit Fact 2 and 3.

Comment 3.b: Ozone (O_3) monitoring data from Klickitat County in Washington is not representative of existing ambient air quality.

Response 3.b: EPA did not utilize O_3 monitoring data from Klickitat County, Washington.

40 CFR § 52.21(i)(5)(i) states that EPA may exempt a source from performing an O_3 ambient air quality analysis, including the gathering of ambient air quality data, if the net emissions increase of volatile organic compounds is less than 100 TPY. As shown in the TSD, the calculated net emissions rate of VOC is 99 TPY. EPA has therefore exempted Diamond from performing an O_3 ambient air quality analysis. See TSD at p. 33, Table

[1] The fine particulate fraction of PM_{10} (particulate matter with an aerodynamic diameter of less than 10 microns) is referred to as $PM_{2.5}$.
[2] http://www.epa.gov/Region7/programs/artd/air/nsr/nsrmemos/pm25.pdf. The guidance was recently affirmed by EPA on April 5, 2005. http://www.epa.gov/nsr/documents/nsrmemo.pdf

5-1. As such, EPA did not have to determine whether O_3 monitoring data from Klickitat County is representative of existing ambient air quality in the area to be impacted by WEC emissions.

General Comment 4: The results of the ambient air quality quality impact analysis (AAQIA) are invalid. EPA has failed to demonstrate that WEC air pollutant emissions will not cause or contribute to a NAAQS violation.

Comment 4.a: The AAQIA utilized meteorological data from Walla Walla, Spokane, and the Umatilla Army Depot to predict air pollutant concentrations from WEC and nearby emissions. This meteorological data is not representative of weather conditions in the area around WEC. Site-specific meteorological data should be collected and utilized to conduct a new AAQIA.

Response 4.a: Meteorological data requirements for air quality modeling are detailed in 40 CFR Part 51, Appendix W.[3] Section 9.3 of Appendix W states that the meteorological data selected for air quality modeling should be representative of the area in terms of dispersion and transport and climatic conditions. The following factors are considered in determining whether meteorological data is representative of an area: (1) the nearness of the meteorological data collection site and the stationary source, (2) the surrounding terrain features, (3) the exposure of the meteorological collection site, and (4) the period of record of the data. Moreover, the source of the meteorological data can be representative National Weather Service (NWS) data, nearby data, or site-specific data. Appendix W further states that representative NWS data is routinely used in dispersion modeling due to its availability. See also NSR Workshop Manual at C.22.

Moreover, on January 23, 2003, EPA Region 10 provided additional guidance to its four states for determining the representativeness of meteorological data when using the AERMOD Modeling System.[4] According to this guidance document, representativeness is largely contingent upon whether the meteorological data collection site and the source location are equivalent or similar in land uses (or surface roughness lengths) given this factor's influence on wind speed.

As explained in the AERMOD guidance document, to make the equivalency determination, two tests should be performed. The first test requires the identification of the predominant land use by sector in a 3-kilometer (km) radius area centered at the measurement location (Umatilla Army Depot) and at the source location (WEC). If there are a similar number of sectors with the same land uses (or surface roughness lengths), then the first test has been satisfied.

[3] http://www.epa.gov/scram001/guidance/guide/appw_03.pdf
[4] AERMOD is a proposed guideline model that has been shown to significantly outperform an approved general purpose guideline dispersion model. EPA most recently provided notice and public comment in the Federal Register on September 8, 2003 regarding EPA's intention to approve AERMOD as a general purpose guideline model.

The second test requires a determination of whether the primary wind flow at both the collection site and source location flows over the same land use. Technical judgment is needed to determine the primary wind flow at the source location given that no meteorological data has been collected at the source location. If the primary wind direction flows over the same land use at both locations, then the second test has been satisfied.

As set forth in the TSD on p. 37, EPA determined that "the two areas [Umatilla Army Depot and WEC] have similar land uses and the predominant wind direction blows over the same land uses." Thus, wind speed, wind direction, and ambient temperature observations from the Umatilla Army Depot were deemed to be representative of conditions at WEC.

In terms of transport and dispersion, wind direction, wind speed and surface roughness length are the variables that have the greatest influence and most sensitivity on predicted concentrations.[5] Hence, it was important to determine that these three meteorological variables at the measurement site (Umatilla Army Depot) would be representative of the source location (WEC). Although cloud cover (Walla Walla) and upper air data (Spokane) are important, they are not as influential or sensitive as the above-stated variables for predicting ambient air pollutant concentrations.

The affect of distance and local terrain features between the Umatilla Army Depot and WEC were considered indirectly. In addition, because five years of consecutive hourly meteorological observation were modeled, EPA believes that the worst-case meteorological conditions have been captured in the generated data set even though cloud cover from Walla Walla and upper data from Spokane were used. In the five-year meteorological database, 42,445 hours out of 43,824 hours were generated and used in the model to calculate concentrations. The balance of time (approximately 1,400 hours) was not modeled due to either missing data or indeterminate wind direction observations.

It has been EPA's policy to allow the use of upper air data collected at the nearest NWS station. This is due largely to the cost that would be incurred to collect this data.

In sum, based on its technical expertise and best professional judgment, EPA has determined that the meteorological data from the Umatilla Army Depot, Walla Walla, and Spokane is adequately representative of the project location.

Comment 4.b: The AAQIA utilized ambient $PM_{2.5}$ monitoring data from Pendleton, Oregon to represent the background $PM_{2.5}$ concentration in the area around WEC. This data was ultimately used to predict $PM_{2.5}$ concentrations emitted from WEC and nearby sources. This monitoring data is not representative of background concentrations in the area around WEC.

[5] Wind direction will determine the location of the predicted concentration. Wind speed will determine the amount of dilution or dispersion of the plume that is transported downwind. Surface roughness length is directly or indirectly used to determine the stability of the atmosphere and the mixing height.

Response 4.b: EPA did not utilize $PM_{2.5}$ monitoring data from Pendleton, Oregon. Therefore, EPA did not determine whether $PM_{2.5}$ monitoring data from Pendleton is representative of background concentrations in the area to be impacted by WEC emissions. Instead, as discussed in General Comment Response 3.a., EPA used the PM_{10} monitoring data from Boardman, Oregon as a surrogate for $PM_{2.5}$ in accordance with the $PM_{2.5}$ Memo.

Comment 4.c: The AAQIA utilized ambient O_3 monitoring data from Klickitat County, Washington to represent the background O_3 concentration in the area around WEC. This data was ultimately used to predict O_3 concentrations resulting from WEC and nearby sources. This monitoring data is not representative of background concentrations in the area around WEC.

Response 4.c: EPA did not utilize O_3 monitoring data from Klickitat County, Washington. Therefore, EPA did not determine whether O_3 monitoring data from Klickitat County is representative of background concentrations in the area to be impacted by WEC emissions.

As discussed in General Comment Response 3.b, Diamond is exempt from performing an AAQIA including pre-construction monitoring for O_3 because the proposed permitted VOC emission rate is less than 100 TPY.

Comment 4.d: The AAQIA should account for all sources (stationary and mobile) that contribute to air pollution in the area around WEC. The AAQIA did not take into account all sources, and thus failed to deliver a cumulative impact analysis.

Response 4.d: 40 CFR § 52.21(m) states that an ambient air quality analysis is required for each air pollutant emitted in excess of EPA's significant emission rate thresholds as delineated in 40 CFR § 52.21(b)(23). In this case, an AAQIA is required for carbon monoxide (CO), nitrogen dioxide (NO_2), O_3, PM_{10}, and sulfur dioxide (SO_2).[6] See TSD at p. 33. If it is determined that emissions from the new source will not have a significant impact, no further analysis is required. See 40 CFR § 51.165(b)(2) for identification of the significant impact levels; see also NSR Workshop Manual at p. C.24 for further explanation.

The AAQIA indicated that only NO_2 and PM_{10} exceeded their respective significant impact levels. See TSD at p.43, Table 5-6. Therefore, a cumulative, or second part, full AAQIA was performed for these two air pollutants to determine compliance with NAAQS and Class II area air quality increments. Subsection 5.2.6 of the TSD provided a description of the nearby point source emissions inventory development. Mobile source emissions were determined to be insignificant and were assumed to be included in the measured background concentrations as well fugitive dust emission and agricultural activities. Moreover, in Comment Letter 5 - Response 7, EPA explained that emission

[6] EPA has not yet established a significant emission rate threshold for $PM_{2.5}$. Instead, EPA has issued the $PM_{2.5}$ Memo which explains how PM_{10} should be used as a surrogate in conducting the $PM_{2.5}$ analysis.

impacts associated with agricultural activities, mobile sources and wind blown would be captured by the representative monitoring station.

The results of these two analyses appear in Table 5-10 of §5.3.3 and Table 5-11 of §5.3.4 of the preliminary TSD. The NAAQS include representative background measurements. It should be pointed out that concentrations predicted for the air quality increment analysis are conservative (bias towards over prediction) because allowable emission rates were modeled and emission decreases or credits were not considered.

In sum, EPA has adequately accounted for all sources contributing to air pollution in the AAQIA. Further, the AAQIA properly contained a cumulative impacts analysis as required under the CAA and implementing regulations. Thus, EPA is proceeding to issue the final Permit.

General Comment 5: Post-construction ambient air quality monitoring should be established in the area around WEC to determine its effect upon local air quality.

Response 5: The CAA PSD regulations do not contain thresholds above or below which post-construction air quality monitoring is required. Instead, 40 CFR § 52.21(m)(2) allows EPA discretion to require post-construction air quality monitoring to determine the "effect emissions from the stationary source or modification may have, or are having on air quality in any area." 40 CFR § 52.21(m)(2). For example, according to the Ambient Monitoring Guidelines, EPA may require a permit condition for post-construction air quality monitoring for an air pollutant to determine if a violation of the NAAQS will occur.

The TSD indicates that the highest 24-hour PM_{10} concentration impact (considering background, WEC, and nearby sources) within WEC's significant impact area (SIA) is expected to be less than 125 $\mu g/m^3$. This resultant concentration represents almost 85% of the 150 $\mu g/m^3$ NAAQS. For all other criteria pollutants, impacts within WEC's significant impact area (SIA) are less than 50% of the NAAQS.

Based upon comments received from the public and Diamond's willingness to conduct post-construction to help address ambient air quality concerns expressed by the public, EPA has determined that it is appropriate under the circumstances to require post-construction PM_{10} and $PM_{2.5}$ monitoring. EPA has modified the permit to require Diamond to conduct post-construction $PM_{2.5}$ monitoring. See Final Permit at Approval Condition 23.

General Comment 6: WEC will have an adverse impact upon the personal health of individuals in the area around WEC.

Response 6: Air pollutant emissions from WEC can be broken down into two categories for the purpose of discussing potential health risks: criteria pollutants and hazardous air pollutants (HAPs).

Criteria Pollutants

Criteria pollutants are those pollutants for which EPA has established NAAQS. Primary NAAQS set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly.

Diamond has demonstrated to EPA's satisfaction that WEC will not cause or contribute to a Primary NAAQS violation. See Table 5-10 within §5.3.3 of the preliminary TSD with respect to NO_2 and PM_{10} NAAQS comparisons. The following table illustrates that WEC's maximum impact is relatively small for all criteria pollutants in comparison to the Primary NAAQS.

WEC's Impacts vs Primary NAAQS

Pollutant	WEC's Maximum Impact ($\mu g/m^3$)	Primary Standard ($\mu g/m^3$)	Percentage of NAAQS (%)	Averaging Times
CO	17.86	10,000	0.18	8-hour
	84.55	40,000	0.21	1-hour
Lead	0.0	1.5	0	Quarterly Average
NO_2	2.57	100	2.57	Annual (Arithmetic Mean)
PM_{10}	4.14	50	8.28	Annual (Arithmetic Mean)
	19.23	150	12.82	24-hour
$PM_{2.5}$[7]	N/A	15.0	-	Annual (Arithmetic Mean)
	N/A	65	-	24-hour
O_3[8]	N/A	160	-	8-hour
	N/A	240	-	1-hour
SO_2	0.25	80	0.31	Annual (Arithmetic Mean)
	2.02	365	0.55	24-hour

Since WEC will not cause or contribute to a NAAQS violation and since NAAQS are established to protect public health, WEC will not have an adverse impact upon public health.

HAPs

HAPs, also known as toxic air pollutants or air toxics, are those pollutants that cause or may cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental and ecological effects. Congress requires EPA to control 188 HAP compounds. Examples of HAPs include benzene, which is found in gasoline; perchlorethlyene, which is emitted from some dry cleaning facilities; and methylene chloride, which is used as a solvent and paint stripper by a number of industries.

[7] Review of PM_{10} is being utilized as a surrogate for review of $PM_{2.5}$.
[8] A review of WEC's O_3 impact is not required given its less than significant VOC emissions.

Instead of developing ambient air quality standards for HAPS, EPA has developed emissions standards called maximum achievable control technology (MACT) emissions standards that apply to all major sources[9] of air toxics (and some area sources that are of particular concern). At WEC, three types of emission units will potentially be generating HAP emissions: (1) CT, (2) DB/HRSG, and (3) cooling towers. As noted below, EPA has determined that HAP emissions from these emission units do not pose a threat to human health.

• Combustion Turbines: EPA has developed a MACT standard for CTs – 40 CFR Part 63 Subpart YYYY[10]. However, EPA has stayed the effectiveness of the MACT standard while EPA attempts to delist CT's from the list of source categories regulated under §112 of the CAA[11]. Pursuant to CAA §112(c)(9), EPA may delist a source category from MACT regulation if the following conditions are satisfied:

> (1) … no source… emits such HAP in quantities that may cause a lifetime risk of cancer greater than 1 in 1 million…;
> (2) …a determination that emissions from no source… exceed a level which is adequate to protect public health with an ample margin of safety; and
> (3) … a determination that no adverse environmental effect will result from emissions from any source in the category or subcategory.

EPA has made the preliminary determination that lean premix CTs firing only natural gas (like the ones proposed by WEC) satisfy the criteria outlined above for delisting[33]. EPA stated, "[p]rojected exposures are sufficiently low to provide reasonable assurance that such adverse effects will not occur..[t]he levels which might cause adverse health or environmental effects are sufficiently high to provide reasonable assurance that exposures will not reach harmful levels." See p. 18329 of April 7, 2004 Federal Register. Given these preliminary findings and given that Diamond intends to combust only natural gas in the lean premix CTs at WEC, EPA believes that WEC's DB/HRSG HAP emissions will not adversely impact the personal health of individuals in the area around WEC.

• Electric Utility Steam Generating Units (EUSGUs): Congress directed EPA to regulate HAP emissions from EUSGUs only if EPA concluded that regulation was appropriate and necessary pursuant to CAA §112(n)(1).[12] Congress also directed EPA to conduct a study upon which to make its determination. EPA submitted its study to Congress in February 1998. EPA's study was entitled, "Study of HAP Emissions from EUSGU – Final Report to Congress."[13]

On December 20, 2000, EPA announced that it had found that regulation of HAP emissions from gas-fired EUSGUs was neither appropriate nor necessary given the

[9] 10 TPY of any one HAP or 25 TPY total HAP.
[10] http://www.epa.gov/ttn/atw/turbine/turbinepg.html
[11] http://www.epa.gov/ttn/atw/turbine/fr18au04.pdf
[12] http://www4.law.cornell.edu/uscode/html/uscode42/usc_sec_42_00007412----000-.html
[13] http://www.epa.gov/ttn/atw/combust/utiltox/utoxpg.html#TEC

"negligible" health impacts due to HAP emissions from gas-fired EUSGU.[14] Accordingly, WEC's DB/HRSG HAP emissions will not adversely impact the personal health of individuals in the area around WEC.

• Cooling Towers: The WEC cooling towers will not emit any HAP.

General Comment 7: WEC will have an adverse impact upon visual resources in the area around WEC.

Comment 7.a: WEC emissions will have an adverse impact upon local visibility.

Response 7.a: 40 CFR § 52.21(o) requires an owner or operator of a new stationary source or modification to a stationary source to "provide an analysis of the impairment to visibility … that would occur as a result of the source or modification …." See also NSR Workshop Manual at D.5. Diamond conducted such an analysis with its permit application for WEC. See p. 5-65 of the August 2003 application and §3 of the September 2004 revised application.

As explained in the TSD on p. 46, "A Class II area visibility analysis was performed for the Columbia River Gorge National Scenic Area (CRGNSA). The predicted change [in visibility from the CRGNSA] … is considered insignificant." EPA did, however, acknowledge that "[s]team plumes from the cooling towers will be visible during the operation of [WEC]." TSD at p. 46. These steam plumes are the result of normal operating conditions and are indicative of cooling towers throughout the entire power plant industry.

Each CT/DB-HRSG may emit smoke if not operated properly. In order to minimize these visibility-obscuring emissions, EPA included Approval Condition 16 in the draft permit that states, "Visible smoke emissions from each CT/HRSG-DB shall not exceed 5% opacity over a six-minute average, except during startup and shutdown." Note that visible smoke emissions do not include water vapor.

In sum, EPA has analyzed and addressed impacts on visibility as required under the CAA and its implementing regulations.

Comment 7.b: WEC structures and steam plumes from WEC's cooling towers will obscure people's view of the surrounding vistas.

Response 7.b: EPA acknowledges that WEC structures and steam plumes from the cooling tower will intermittently obscure people's view of the surrounding vistas. In determining whether to grant a PSD permit application, however, EPA's role is to determine if Diamond's application meets all federal laws and regulations before issuing the PSD permit. Moreover, as explained above, EPA has attempted to address some of the visibility issues through implementation of Approval Condition 16. It should also be

[14] http://www.epa.gov/ttn/atw/combust/utiltox/utilfind.pdf

noted that BIA's Final EIS contains a discussion of WEC's visual impacts. See Final EIS at §3.7.2.

General Comment 8: WEC will have an adverse impact upon local agriculture.

Comment 8.a: WEC's emissions will adversely affect crop production.

Response 8.a: EPA acknowledges that elevated levels of air pollutant emissions may damage crops.

Criteria pollutants are those pollutants for which EPA has established NAAQS. Secondary NAAQS protect public welfare, including protection against decreased visibility, and damage to animals, crops, vegetation, and buildings.

Diamond's application included an analysis showing that WEC will not cause or contribute to a Secondary NAAQS violation. See page 2-36 of September 2004 revised application with respect to SO_2 and PM_{10}. See also TSD at p. 45, Table 5-10 with respect to PM_{10}. The following table illustrates that WEC's maximum impact is relatively small in comparison to the Secondary NAAQS.

WEC's Impacts vs Secondary NAAQS

Pollutant	WEC's Maximum Impact ($\mu g/m^3$)	Secondary Standard ($\mu g/m^3$)	Percentage of NAAQS (%)	Averaging Times
CO	17.86	N/A	-	8-hour
	84.55	N/A	-	1-hour
Lead	0.0	1.5	0	Quarterly Average
NO_2	2.57	100	2.57	Annual (Arithmetic Mean)
PM_{10}	4.14	50	8.28	Annual (Arithmetic Mean)
	19.23	150	12.82	24-hour
$PM_{2.5}$	N/A	15.0	-	Annual (Arithmetic Mean)
	N/A	65	-	24-hour
O_3	N/A	160	-	8-hour
	N/A	240	-	1-hour
SO_2	0.25	N/A	-	Annual (Arithmetic Mean)
	2.02	N/A	-	24-hour
	8.20	1300	0.63	3-hour

Since WEC's maximum impact is below the Secondary NAAQS, EPA has determined that WEC will not have an adverse impact upon crops due to criteria pollutant emissions.

Congress directs EPA to complete a review of the NAAQS every five years. See CAA §109(d)(1). If appropriate, such a review will result in a revision to existing air quality

criteria and standards to reflect advances in scientific knowledge on the effects of the pollution on public health and welfare.

Comment 8.b: WEC's impacts to the airshed may ultimately contribute to the area failing to attain the NAAQS. Traditional agricultural industry practices may be unfairly sacrificed in order for the area to once again achieve attainment.

Response 8.b: For the reasons noted in response to General Comments 6 and 8.a, EPA believes that local air quality will not degrade to the point where the area fails to attain the NAAQS. In its application, Diamond demonstrated that the area will continue to attain NAAQS and PSD increment while in operation.

Moreover, ODEQ has regulatory tools in place, such as the NSR construction permit program, to prevent the area from falling into nonattainment. If the area fails to attain the NAAQS in the future, ODEQ is required to submit a plan to EPA that demonstrates how the area will achieve attainment. At this time, it is premature to speculate that the area will fall into nonattainment. Further, it is premature to conclude that, if the area falls into nonattainment, ODEQ's attainment plan will adversely impact the local agricultural industry.

Comment 8.c: WEC's wastewater discharge will adversely affect soils and crops receiving irrigation water.

Response 8.c: In issuing a PSD permit, EPA cannot take into consideration wastewater discharges and/or water quality. It should be noted, however, that BIA's Final EIS at §3.3 discusses WEC's effect on surface water and groundwater quantity and quality. See also the discussion under "Geology and Soils" and "Water Resources" in the February 2005 BIA ROD.

General Comment 9: WEC will have an adverse impact upon water resources, water quality, and the species that inhabit local water bodies.

Response 9: In issuing a PSD permit, EPA cannot take into consideration effects on water quality. As discussed above, BIA's Final EIS addressed surface water and groundwater quantity and quality. See Final EIS at § 3.3.

In addition, biological assessments (BA) were prepared to evaluate WEC's potential impacts on threatened and endangered species. The BA's concluded that WEC may affect, but is not likely to adversely affect, bull trout, bald eagles, Snake River Fall-run Chinook Salmon, Snake River Spring/Summer-run Chinook Salmon, Upper Columbia River Spring-run Chinook Salmon, Snake River Sockeye Salmon, Upper Columbia River Steelhead and Snake River Basin Steelhead. In a letter dated November 18, 2004, the U.S. Fish and Wildlife Service (FWS) concurred with the conclusion that the proposed action may affect, but is not likely to adversely affect bull trout and bald eagles. In a letter dated December 2, 2004, the National Oceanic and Atmospheric Administration – Fisheries (NOAA Fisheries) concurred that the proposed activities are not likely to cause

adverse effects on ESA–listed anadromous salmonids or designated critical habitat in the action area. Thus, EPA has determined, and FWS and NOAA Fisheries has concurred, that there will not be an adverse impact on any threatened or endangered species in the project area.

General Comment 10: WEC air pollutant emissions will have an adverse impact upon wildlife and vegetation.

Response 10: In issuing a PSD permit, EPA cannot take into consideration general effects on vegetation and wildlife outside the context of the ESA. Moreover, the effects on vegetation and wildlife were studied and discussed in BIA's EIS. The ROD presented a summary of mitigation measures that would be taken in order to lessen any effects upon vegetation and wildlife. Please see Appendix 1, Table ES-1 of the BIA ROD for more information.

See also Response to General Comment 9.

General Comment 11: The Permit does not adequately require WEC to monitor its air pollutant emissions at the point of discharge to the atmosphere.

Response 11: The Permit requires both stack testing and continuous emission monitoring systems (CEMS) for certain specific air pollutants. CEMS are required for nitrogen oxides (NO_X), CO and ammonia (NH_3). These are the pollutants of most concern from the WEC CTs and DBs, and the pollutants for which emission control devices will be installed and operated. CEMS provide continuous real-time data of the pollutant concentration in the stack for each of the pollutants listed above. In addition, the mass emission rates for the pollutants can be calculated from the concentration data and other operating parameters. Therefore, WEC, EPA and the public will have a rich source of emissions data available for these air pollutants. See Approval Conditions 7.3, 10.3, and 11.3 for the requirements for Diamond to install and operate NO_X**,** NH_3, and CO CEMS on each CT/HRSG-DB stack.

An initial performance test (stack test) is also required for NO_X, CO, NH_3, PM_{10}, and SO_2, and EPA can require additional stack testing if warranted. Estimates of SO_2 emissions will be available based on the fuel monitoring requirements in the permit and annual representative gas sulfur values obtained from the natural gas provider.

See also pages 57 through 60 of the TSD for a summary of emissions monitoring requirements.

General Comment 12: Compare WEC air pollutant emissions to other electric generation facility's emissions.

Response 12: Although this type of comparison is not required under the CAA in the context of a PSD application review, EPA has nonetheless gathered emissions data in the interest of educating the local community. The emissions data presented here covers facilities in the Pacific Northwest (Idaho, Oregon and Washington) exclusively engaged in the business of supplying electricity for sale.

Much of the actual NO_X and SO_2 emissions data was generated by CEMS and submitted to EPA's Clean Air Markets Division pursuant to requirements of the Acid Rain Program. PM_{10} and NH_3 actual emissions data was calculated based upon stack test results or emission factors. Emission estimates from newly permitted facilities are based upon construction permit limits or estimates.

Additional emissions data for electricity generation facilities subject to EPA's Acid Rain Program can be reviewed over the Internet at http://cfpub.epa.gov/gdm/index.cfm?fuseaction=iss.emissions.

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2003 Actual Electric Generating Plant Emissions in Pacific Northwest

Idaho Actual Emissions Estimates

Power Plant	Generating Capacity (MW)	Primary Fuel	County	NO_X (TPY)	SO_2 (TPY)	PM_{10} (TPY)	NH_3 (TPY)
Rathdrum Power	270	Gas	Kootenai	57.9	2.4	27.2	11.38
Mountain Home Generation	90	Gas	Elmore	19.7	0.2	2	0
Rathdrum Combustion Turbine	180	Gas	Kootenai	4.6	0	11.39	0
TOTAL	540			82.2	2.6	40.59	11.38

Oregon Actual Emissions Estimates

Power Plant	Generating Capacity (MW)	Primary Fuel	County	NO_X (TPY)	SO_2 (TPY)	PM_{10} (TPY)	NH_3 (TPY)
Boardman	585	Coal	Morrow	10080	13118.7	700	0
Beaver	586	Gas	Columbia	287	13	11	0
Hermiston Generating	474	Gas	Umatilla	155.8	7.5	54.27	68.42
Hermiston Power Plant	546	Gas	Umatilla	142.6	5.2	58.62	39.77
Klamath Cogeneration Project	484	Gas	Klamath	128.5	5	16.96	49.84
Coyote Springs	530	Gas	Morrow	98.7	3.5	16.01	43
Klamath Energy LLC	100	Gas	Klamath	5.6	0	0.52	0.11
Morrow Power	25	Gas	Morrow	0	0	0	0
Clatskanie PUD	11	Gas	Clatskanie	0	0	0	0
TOTAL	3341			10898.2	13152.9	857.38	201.14

Washington Actual Emissions Estimates

Power Plant	Generating Capacity (MW)	Primary Fuel	County	NO_x (TPY)	SO_2 (TPY)	PM_{10} (TPY)	NH_3 (TPY)
Centralia	1460	Coal	Lewis	20486.1	8283.4	265.72	0
March Point Cogeneration	167	Gas	Skagit	267.6	17	6.3	3
Ferndale Cogeneration	246	Gas	Whatcom	130.6	32	30.8	0.47
Encogen	170	Gas	Whatcom	82	7	32.85	27.9
River Road Generating	248	Gas	Clark	59.9	3.4	30.076	1.3
Frederickson Power	248	Gas	Pierce	43.7	1.7	33.98	1.32
Sumas Cogeneration	126	Gas	Whatcom	64	0	0	12.7
Chehalis Power	520	Gas	Lewis	33.6	3.2	18.82	3.66
Big Hanaford	268	Gas	Lewis	35.7	2.8	6.4	0
Frederickson	169	Gas	Pierce	10.7	2.815	0.622	0
Northeast Combustion Turbine	61	Gas	Spokane	2.92	0	0.0031	0
Fredonia	357	Gas	Skagit	0.92	0	1.2	0.23
Whitehorn	178	Gas	Whatcom	0.32	0	0	0
Finley Combustion	27	Gas	Benton	0	0	0.06	0
Pasco Peak Power	43	Gas	Franklin	0	0	0	0
TOTAL	4288			21218.06	8353.315	426.7711	50.58

Post-2003 Permitted Electric Generating Plant Emissions in Pacific Northwest

Power Plant	MW	NO_X (TPY)	SO_2 (TPY)	PM_{10} (TPY)	NH_3 (TPY)	Facility Status
Wanapa Energy Center	**1200**	**486**	**57**	**562**	**279**	**Permit to be issued by EPA**
West Cascades Energy	900	401.2	51.8	325.9	209.3	Application under review
California Oregon Border	1150	359	39	161	267.4	Permit issued
BP Cogeneration	720	234	51	262	174	Permit issued, EAB denied review
Satsop CT Project	650	246	29	211.2	141	Construction suspended
Summit Westward	540	210	39	224	125.6	Construction delayed
Sumas Energy 2	660	144.5	69	209	139	Permit issued, EAB denied review
Bennett Mountain Power	170	248.16	48.3	132.4	0	Constructing
Mint Farm	319	97.77	84.35	99.31	128.05	Construction suspended
Port Westward	400	157	41	87	93	Constructing
Klamath Generation LLC	480	153	39	69	111.6	Permit issued
Longview Energy	290	98.25	37.16	99.88	120.36	Permit issued
Frederickson Power 2	290	93	33	95	67.4	Permit issued
Plymouth Generating	307	81	38	88	75	Permit issued
Goldendale Energy Center	249	76.7	30	98.9	34.5	Operating in 2004
Morrow Power	25	130	39	14	0	Built/operating as needed
Pasco Peak Power	44	48.9	7.5	30.1	30	Built/operating as needed
Clatskanie PUD	11	39	10	14	0	Built/operating as needed
Finley Combustion	27	24.9	3.7	12.7	18.3	Built/operating as needed
TOTAL	9052	3545.38	785.81	2934.39	2157.71	

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General Comment 13: EPA is extending to Diamond preferential treatment that other permit applicants in other industries do not enjoy.

Response 13: EPA has reviewed Diamond's PSD permit application for WEC in accordance with the CAA and its implementing regulations. As such, EPA has not given Diamond any preferential treatment during this permitting process.

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3. RESPONSES TO WRITTEN COMMENTS

Comment Letter 1: Ken Thompson

Comment 1: Crops and personal health have no protection from the air pollution poisons that shall be emitted from WEC because neither Umatilla County nor the State of Oregon are engaged in the siting process to enforce local or state statutes, rules, or ordinances.

Response 1: See responses to General Comment 6 and 8.a

EPA is aware of no local or state statutes, rules, or ordinances that would further restrict air pollution emissions (as defined by the CAA) from WEC. EPA's implementation of the CAA PSD requirements at 40 CFR 52.21 is essentially equivalent to ODEQ's implementation of its EPA-approved PSD program within Chapter 340 of the Oregon Administrative Rules.[15]

EPA's review of WEC's carbon dioxide (CO_2) emissions, however, will not bring about the same environmental benefit as if the Oregon Energy Facility Siting Council were to be a decisionmaker in the siting process. EPA is not requiring WEC to reduce its CO_2 emissions given its limited authority to do so under the CAA. The Oregon Energy Facility Siting Council, however, has the ability under state statutes to require the mitigation of CO_2 emissions from new large power plants. Because WEC is to be constructed on tribal trust land rather than state land, Oregon's CO_2 emissions mitigation requirements are not applicable.

While CO_2 emissions may contribute to global climate change, CO_2 is neither a HAP nor a criteria pollutant. While there may be consequences to the earth's environment due to CO_2 emissions from the combustion of fossil fuels, EPA is aware of no health risks associated with breathing ambient air at CO_2 concentrations resulting from the operation of WEC.

Comment 2: WEC will utilize 5.4 billion gallons of water per year from the Port of Umatilla.

Response 2: In issuing a PSD permit, EPA is only authorized to take into consideration the CAA and its implementing regulations. EPA's ESA and MSA obligations require that WEC's water usage from the Columbia River be taken into consideration. As noted previously in response to General Comment 9, EPA has determined that there will not be an adverse impact on any threatened or endangered species in the project area. EPA's determination factored in WEC's water usage from the Columbia River.

It should be noted that BIA's Final EIS analyzed water utilization impacts beyond ESA and MSA considerations. See Final EIS at §3.3

[15] http://yosemite.epa.gov/r10/AIRPAGE.NSF/283d45bd5bb068e68825650f0064cdc2/190c1fe31b30951588256cdb0070ed48?OpenDocument

Comment 3: WEC will discharge deadly wastewater into the Cold Springs Reservoir.

Response 3: See response to General Comment 8.c and 9.

Comment 4: WEC will have a negative impact upon the community.

Response 4: See response to General Comment 2.

Comment 5: Property deed covenants apply to the land upon which WEC is to be constructed. Those covenants are being ignored.

Response 5: In issuing a PSD permit, EPA is required to evaluate Diamond's permit application for WEC in accordance with the CAA and its implementing regulations. Consideration of property deed covenants is not a part of this review process.

Comment 6: Electricity should be generated where it is consumed. WEC's electricity will not be consumed locally, thus, WEC should not be constructed here.

Response 6: In issuing PSD permits, EPA is required to evaluate Diamond's permit application for WEC in accordance with the CAA and its implementing regulations. The ultimate destination of WEC's electricity is not a factor that EPA can take into consideration in issuing PSD permits.

Comment 7: WEC will generate electricity for sale, and WEC will emit CO_2. CO_2 emissions in Oregon resulting from the generation and sale of electricity are taxed by the State. Diamond does not intend to pay this CO_2 tax to the State.

Response 7: In issuing PSD permits, EPA is required to evaluate Diamond's permit application for WEC in accordance with the CAA and its implementing regulations. The payment of the Oregon CO_2 tax is not a factor that EPA can take into consideration in issuing PSD permits.

Comment 8: EPA should not employ the PSD permitting process to evaluate WEC's application for approval. Rather, EPA should employ techniques it utilized to control emissions from non-road diesel engines. These techniques ultimately resulted in the promulgation of the non-road diesel engine and fuel regulation published in the Federal Register on June 29, 2004. In the non-road diesel engine and fuel regulation, EPA has dictated that engine design must reduce the air pollution waste with a 90% reduction in PM_{10} emissions, a 95% reduction in NO_X emissions, and a 99% reduction in SO_X emissions.

Response 8: The CAA regulates stationary sources and mobile sources differently, and EPA is required to follow the PSD permitting process for this facility under the CAA. EPA does not have the authority to ignore the PSD permitting process when issuing a PSD permit, such as this one.

Comment 9: I have conducted modeling to determine WEC's downwind impacts. The modeling results soundly demonstrate that air pollution resulting from WEC's air pollutant emissions shall do quantifiable harm to my family, my health, and the welfare of our crops.

Comment 9: EPA appreciates the effort made in attempting to model WEC's emissions so as to determine downwind impacts upon health and welfare. The modeling that was done by the commentor appears to predict WEC's heath impacts based upon information generated by EPA in the context of estimating the health-related benefits of the non-road diesel engine and fuel regulation. The modeling, however, was not conducted in accordance with the air pollutant dispersion modeling approved by EPA nor was it consistent with EPA's Guideline on Air Quality Models (40 CFR Part 51, Appendix W).

As explained in response to General Comment 6 and 8.a, WEC will not adversely affect public health or the local agricultural activities.

Comment 10: Since EPA accepted the modeling submitted by Diamond to determine WEC's air pollutant impacts, EPA should also accept the modeling I have conducted to determine WEC's air pollutant impacts.

Response 10: EPA appreciates the effort that was made in attempting to model WEC's emissions so as to determine downwind impacts upon health and welfare. In order to obtain a PSD permit for WEC, Diamond was required to submit the modeling pursuant to 40 CFR §52.21(k). Thus, EPA accepted the modeling as part of Diamond's permit application.

See also Comment Letter 1, Response to Comment 9.

Comment 11: Can Diamond and EPA prove that its modeling is statistically significant? I contend that the modeling EPA has utilized to support the draft permit is perhaps less statistically significant than the modeling that I have performed.

Response 11: Diamond utilized the AERMOD modeling system to model the ambient air quality and WEC's projected effects on air quality in the area. The AERMOD modeling system is a general purpose dispersion model that EPA is proposing to approve formally into 40 CFR Part 51, Appendix W as a Guideline Air Quality Model. The modeling system consisted of three components: (1) the dispersion program called AERMOD, (2) the meteorological data preprocessor program called AERMET, and (3) the terrain/receptor point preprocessor program called AERMAP. These three programs have undergone numerous developmental and independent testing. The purpose of the testing is to ensure that, under various conditions, the predicted concentrations will not over or under predict concentrations of pollutants. Based on its technical expertise and best professional judgment, EPA believes that the AERMOD modeling system will provide the most accurate results. See also response to General Comment 4.a.

Comment 12: Meteorological data from Walla Walla, Spokane, and the Umatilla Army Depot was utilized to conduct the AAQIA for WEC. Meteorological data from these locations is not representative of weather conditions around WEC. Therefore, the results of the AAQIA are invalid.

Response 12: See response to General Comment 4.a.

Comment 13: Site-specific ambient air pollutant monitoring should be required to validate the results of the AAQIA.

Response 13: See response to General Comment 5.

Comment 14: WEC air emissions will result in quantifiable human health and welfare impacts even if monitoring data suggests that the area remains in compliance with the NAAQS. Scientific studies quantify human health and welfare impacts at concentrations below the NAAQS.

Response 14: See response to General Comment 6.

Comment 15: If EPA chooses to grant WEC an air quality permit that fails to meet the same emission reductions as the newly implemented non-road diesel engine and fuel regulations, there must be restitution for the quantifiable health and welfare-related impacts presented within my testimony. Moreover, these quantifiable impacts have never been discussed by Diamond, ODEQ, EPA, or local officials.

Response 15: The CAA does not provide EPA with the authority to require Diamond to pay restitution. See also response to General Comment 6.

Comment 16: WEC has enjoyed special siting privileges not extended to the agricultural industry.

Response 16: See response to General Comment 13.

Comment 17: WEC's impact to the airshed may ultimately contribute to the area failing to attain the NAAQS. In such an event, stringent non-attainment area regulations (such as emissions off-setting) will be levied upon industries that lack the political clout to protect themselves, like the natural resources industry.

Response 17: See response to General Comment 8.b.

Comment 18: EPA and ODEQ are permitting Umatilla County's airshed as an air pollutant dumping airshed without the same rights to clear skies and unlimited visibility as humans within Class I and II wilderness or scenic areas.

Response 18: The area around WEC, like most other areas within the United States, is classified as a Class II area. EPA has reviewed WEC's impacts upon the surrounding

area consistent with PSD requirements for Class II areas. See also response to General Comment 2.c and 7.

Comment 19: Why not collect from WEC exhaust stacks the nitrogen and sulfur that can be reused as fertilizers in the local agricultural industry? Why not collect the CO_2 and CO and use the product as a compressed gas in other industrial uses? The same approach needs to be taken with the waste steam and water as the first co-generation plants in Umatilla County. Only then will the design of WEC truly be the "Best of the Best."

Response 19: EPA is not familiar with recycling programs employed by the first co-generation plants in Umatilla County. EPA has the regulatory authority to require the source to install BACT and to reduce its emissions so that NAAQS and PSD increments remain protected. EPA, however, does not posses the authority to define the source or regulate CO_2 emissions.

Comment 20: The proposed PSD permit fails to limit annual plant-wide duct burner operation to 6,800 hours. Diamond's application was submitted to EPA with such a constraint. EPA should make the operational constraint enforceable. Moreover, please explain the development of a 99-tpy facility-wide VOC emission limit.

Response 20: Diamond's request to limit annual plant-wide DB operation to 6,800 hours was submitted with the intent of establishing enforceable operating restrictions to limit VOC emissions to less than 100 TPY. EPA's emissions estimates, however, suggested that WEC's VOC potential emissions would be around 144 TPY given full-time CT operation and 6,800 hours of annual DB operation. See Table 2-3 from EPA's preliminary TSD. EPA concluded that limiting annual DB operation to 6,800 hours was not effective at limiting VOC emissions to less than 100 TPY.

EPA determined that an effective mechanism for achieving Diamond's request was to create a permit condition limiting VOC emissions to less than 99 TPY. The proposed permit condition entitled, "VOC Emissions Cap for all CT/HRSG-DB" calls upon Diamond to develop site-specific emission factors or to utilize EPA emissions factors to calculate VOC emissions. If EPA emissions factors are utilized, WEC must track hours of operation for CT and DB. If site-specific emissions factors are developed, DB and CT fuel usage must be tracked.

Comment 21: Explain the "rural" classification of the area surrounding WEC. Note the existence of the Two Rivers Correctional Institute within three kilometers of WEC.

Response 22: If more than 50 percent of an area (within a 3.0-km radius centered at the proposed project location) contains land uses that are urban in nature then the area is designated "urban." Otherwise, the "rural" designation is used. See 40 CFR Part 51, Appendix W at § 8.2.3.

Subsection 5.2.1 of the TSD explains the basis for the rural designation of the WEC project area. Because the area surrounding WEC contains predominantly rural land uses, the area was designated "rural" for modeling purposes.

Comment Letter 2: Philip B. Hamm

Comment 1: Typical EPA regulatory guidelines should not be used to evaluate the WEC PSD permit application. Because this facility will ultimately reduce industrial development in the future, without providing significant public good, at a tremendous loss to the taxpayers of the region, it should not be permitted.

Response 1: See response to General Comment 1 and 2.

Comment 2: Diamond will have no tax liability to the public taxing districts in the area around WEC because the facility is to be constructed on an island of land held by CTUIR. A power generating plant of this size and value would contribute at least $12 million annually to defray the costs of public education, law enforcement, maintaining infrastructure, and local bond measures, etc.

Response 2: See response to General Comment 2.a.

Comment 3: WEC will consume a portion of the air shed, a limited resource, without providing a benefit to the citizens of the region.

Response 3: See response to General Comment 2.b and 2.c.

Comment 4: WEC will ultimately prevent future industrial source growth in the area due to its air pollutant contribution to the airshed.

Response 4: See response to General Comment 2.c.

Comment Letter 3: Jim Kanoff, Oregon Department of Human Services

Comment: The Oregon Department of Human Services recommends that EPA require the cooling system to use state of the art design, disinfection and maintenance procedures so as to preclude any potential for exposure to infectious agents via aerosols from the cooling systems to on-site workers and the surrounding area.

Response**:** The CAA does not give EPA authority to directly regulate infectious agents; however, EPA expects that WEC will operate the cooling towers following good industry practice to prevent microbial growth.

It should be noted that BIA's Final EIS addresses this issue. See Final EIS at Appendix C, p. C.3. Specifically, the Final EIS states that "[v]ery small quantities of one or more microbiocides also will be added to prevent the growth of microbes in the system... Generally, chlorine, in the

form of sodium hypochlorite (a low level chlorine compound), is used, and fed intermittently at low levels."

Comment Letter 4: Virginia Jones

Comment 1: Local property values will decline drastically and additional police will be required as a result of WEC.

Response 1: See response to General Comment 2.b.

Comment 2: Air quality monitors should be installed in Hermiston or a nearby town.

Response 2: See response to General Comment 3 and 5.

Comment 3: Where will WEC obtain water to run the plant? Where will WEC discharge its wastewater? What will be the impacts to ground water (residential drinking water) accessed by private wells?

Response 3: See response to General Comment 9.

Comment 4: WEC should compensate the local governments financially to offset its impacts. WEC should contribute financially to projects benefiting the community.

Response 4: The CAA does not provide EPA with the authority to require Diamond to provide financial contributions to the community. See also response to General Comment 2.a and 2.b.

Comment Letter 5: Peter Brewer, ODEQ

Comment 1: The PM_{10} BACT emission limit of 0.015 lb/MMBtu in the proposed PSD permit for each CT/HRSG-DB does not represent BACT as evidenced by source test data from two similar facilities in Oregon: Klamath Cogen and Hermiston Power Partnership. EPA should add a PM_{10} BACT emission limit of 0.0042 lb/MMBtu, 3-hr block average to the permit for each CT/HRSG-DB. ODEQ prescribed such a PM_{10} BACT emission limit to Umatilla Generating. If WEC demonstrates through source testing that it cannot comply with the more stringent 0.0042 lb/MMBtu PM_{10} BACT emission limit, EPA could later revise the permit to reflect an achievable PM_{10} BACT emission limit.

Response 1: EPA may set a BACT limit that reflects the proper operation and maintenance of the technology selected, and that BACT limit may provide the applicant with a reasonable likelihood of consistently achieving compliance with the emission limit. In this case, Diamond has selected a GE Frame 7FA CT.

The proposed Permit does not contain a PM_{10} BACT emission limit of 0.015 lb/MMBtu. This PM_{10} value appears in the TSD and represents an emission factor supplied by Diamond to reflect emissions during maximum CT and DB firing. See TSD at p. 22 and

55. EPA's proposed PM_{10} BACT decision for each CT/HRSG-DB is set forth in Preliminary Finding 4 of the proposed Permit. This finding specifies BACT as the "[e]xclusive use of pipeline natural gas, proper design and operation of equipment, minimize ammonia (NH_3) slip." The following Approval Conditions memorialize this BACT determination:

> 3.1 Each CT and HRSG-DB shall combust only pipeline natural gas.
>
> 10.1 NH_3 emissions from each CT/HRSG-DB exhaust stack shall not exceed 5.0 ppmdv, corrected to 15.0 % O_2, averaged over any consecutive three hour period, except during CT startup and shutdown

WEC's adherence to these operating practices results in the lowest level of PM_{10} emissions that can be achieved since there are no practical (economically feasible) add-on control devices available for PM_{10} emissions from a gas-fired CT/HRSG-DB. Moreover, WEC's obligation to adhere to the approval conditions set forth above has been memorialized in the daily PM_{10} emission limit of 745 lb/day. See Permit at Approval Condition 12.1. This daily mass emission limitation is based upon the 0.015 lb/MMBtu emission factor as follows:

$$745 \text{ lb/day} \approx (24 \text{ hr/day})(0.0145 \text{ lb/MMBtu})(1604.1 \text{ MMBtu/hr} + 546.2 \text{ MMBtu/hr})$$

where "1604.1 MMBtu/hr" and "546.2 MMBtu/hr" values reflect the heat input for the CT and DB, respectively, given a low heating value of 20,882 Btu/lb for natural gas.

In the event performance test results indicate lower than expected PM_{10} emissions, EPA will revise the Permit limit to include a more stringent PM_{10} emission limit. See Permit at Approval Condition 12.4.

In its comment letter, ODEQ encourages EPA to require each CT/HRSG-DB to meet a PM_{10} BACT emission limit of 0.0042 lb/MMBtu, 3-hr block average. EPA believes that it is not reasonable to require WEC to achieve such an emission limit because of the stack test data from similar operating facilities in the Pacific Northwest.

The table below provides PM_{10} emission test data for three similar GE Frame 7FA CTs operating in Washington:

GE Frame 7FA PM_{10} Emissions Data

CT Unit	DB Size	DB On/Off	Run 1 (lb/MMBtu)	Run 2 (lb/MMBtu)	Run 3 (lb/MMBtu)
GEC Unit 1[16]	323	Off	0.00504	0.00034	<0.00024
Chehalis Unit 1[17]	N/A	N/A	0.00821	0.00634	0.00634

[16] August 2004 performance test.
[17] August 2003 performance test.

CT Unit	DB Size	DB On/Off	Run 1 (lb/MMBtu)	Run 2 (lb/MMBtu)	Run 3 (lb/MMBtu)
Chehalis Unit 2[18]	N/A	N/A	0.00837	0.00698	0.00420

This data suggests that two of the three emission units are currently failing to achieve a PM_{10} emission rate of 0.0042 lb/MMBtu.

ODEQ suggests that Klamath Cogen and Hermiston Power Partnership are achieving a PM_{10} emission rate of 0.0042 lb/MMBtu. However, neither Klamath Cogen nor Hermiston Power Partnership operate a GE Frame 7FA CT. In addition, it is EPA's understanding that ODEQ has not required the Hermiston Power Partnership to conduct PM_{10} emissions testing. Emissions test results for Klamath Cogen are presented below:

Siemens Westinghouse Frame 501 Emissions Data

CT Unit	DB Size	DB On/Off	Run 1 (lb/MMBtu)	Run 2 (lb/MMBtu	Run 3 (lb/MMBtu)
Klamath Cogen 1[18]	191	On	0.0038	0.0039	0.0039
Klamath Cogen 2[19]	191	On	0.0037	0.0036	0.0036

This data suggests that the two Klamath Cogen units are currently achieving a PM_{10} emission rate of 0.0042 lb/MMBtu with only a 7 percent compliance margin.

Given this actual emission data, EPA does not believe it is reasonable to establish a BACT limit of 0.0042 lb PM_{10}/MMBtu. EPA further believes that Approval Condition 12.4 will allow EPA to include a more stringent limit should performance test data indicate a more stringent limit is required.

Comment 2: WEC is allowed up to five years to come up with a better estimate of their PM_{10} emissions. Assuming that construction of this facility is delayed because of lack of demand for electricity production this facility may not perform the required emissions test for years at which point WEC would have another five years to propose a better estimate of their PM_{10} emissions.

Response 2: EPA does not believe that the proposed Permit allows WEC up to five years to refine its PM_{10} emissions. Approval Condition 12.3.3.1 requires Diamond to develop PM_{10} emission factors for EPA approval based upon stack test observations for each CT and DB no later than 180 days after commencing commercial operation. Thereafter, PM_{10} emissions factors shall be updated every five years, if warranted, based upon new stack test results.

Comment 3: WEC will consume most of the PM_{10} increment and possibly preclude new sources from locating in the area.

Response 3: See response to General Comment 2.c.

[18] September 2002 performance test.

Comment 4: The source test method (EPA Method 5 and 201) prescribed in the permit that was used to determine PM_{10} emissions from each CT/HRSG-DB is not appropriate for the emission units being tested. The proper test method for emissions units generating low particulate concentrations is EPA Method 5I. ODEQ requests that EPA revise the proposed PSD permit to prescribe EPA Method 5I as the PM_{10} source test method for each CT/HRSG-DB.

Response 4: In response to this comment and for the reasons discussed below, EPA has decided to modify the PM_{10} test method specifications in the permit to allow the use of EPA Method 5I as an alternative to EPA Method 5. EPA is no longer making available EPA Methods 201 and 201A. See Final Permit Condition 12.2.1.1.

ODEQ suggested that EPA Method 5I is a more appropriate PM_{10} test method for emission units generating low particulate concentrations such as the CTs. EPA Method 5I is most effective for total PM catches of 50 mg or less, and was initially developed for performing correlation of manual PM measurements to PM CEMS. However, it is also useful for other low PM concentration applications.

EPA Region 10 has discussed various PM_{10} test methods with EPA's Emissions Measurement Center (EMC) in the Office of Air Quality Planning and Standards (OAQPS) located in Research Triangle Park, North Carolina. The EMC is the most experienced organization within EPA to develop and apply source test methods. The EMC contacts made several observations that are relevant to the PM_{10} testing situation for the WEC.

First, since EPA has not developed a PM_{10} emission standard for CTs under the NSPS or National Emission Standards for Hazardous Air Pollutants (NESHAP) programs, EPA has not specified an official PM_{10} test method for this source category. Second, EPA Method 5 can achieve a minimum detection level similar to EPA Method 5I (about 5 mg) with an experienced test team using good technique. Another method for low PM sources is a continuous PM CEMS such as the Rupprecht & Patashnick Series 7000 Source Particulate Monitor [an In-situ Tapered Element Oscillating Microbalance (TEOM)]. Third, both EPA Method 5 and 5I and the TEOM only measure filterable PM (that is, PM that is a solid or an aerosol at the filter or stack temperature). In order to measure condensable PM in addition to filterable PM, EPA Method 202 or another type of method which captures condensable PM must also be used. One other method that captures both filterable and condensable PM is EPA CTM-039 (a dilution method).

Although not explicit in the permit or the comment, EPA wishes to point out that EPA Method 5 or 5I does not include a device to limit the particle size collected on the filter to PM that is PM_{10} or smaller. The proposed permit included EPA Method 201 and 201A as alternatives to EPA Method 5 for PM_{10}. However, for CTs and DBs, all PM emissions will be less than 10 μm in diameter and therefore PM_{10}. Since EPA Method 201 and 201A use a cyclone on the nozzle which goes into the stack, these methods will likely to be very difficult to use in a large diameter duct with high stack velocity.

Since PM_{10} testing methodology may become more advanced during the period between permit issuance and testing, EPA is requiring Diamond to submit a source test plan for approval prior to any PM_{10} testing so that the most appropriate PM test method available at that time will be employed. See Permit at Approval Condition 12.2.1.

*Comment 5: WEC is a 1200 megawatt (MW) project. The facility is projected to emit 824 TPY of CO during startup and shutdown. A similar facility (*i.e.*, the COB Energy Facility), however, is permitted by ODEQ to emit 211 TPY of CO during startup and shutdown. This indicates that WEC could do much more to reduce CO emissions during startup and shutdown.*

Response 5: It is EPA's understanding that CT/HRSG-DB CO emissions will be elevated only during startup conditions. The oxidation catalyst is effective only after optimal flue gas temperatures have been achieved in the HRSG. To address these periods of excess emissions, EPA is requiring Diamond to develop and implement a startup, shutdown and malfunction plan as specified in Approval Condition 18 in order to minimize emissions outside of normal operating conditions.

In addition, EPA included in the specific Permit requirements to limit the duration of each startup depending on whether the startup was from a cold, warm or hot CT condition as specified in Approval Condition 6. Approval Condition 6.2.2 prescribes the time limit for each type of startup. EPA believes that directly limiting the duration of startup is an effective way to minimize startup emissions.

EPA did not limit the number of startup events WEC may undertake over the course of time. Although limiting the number of allowable startups during any specified time period would be an alternative to capping CO emissions, EPA does not consider the approach to be either appropriate or consistent with 40 CFR § 52.21 without a request from the applicant. The ability to startup as necessary to satisfy market demand is an integral part of the operating flexibility that Diamond is proposing for this project. Absent a request to restrict the number of startups, EPA simply does not posses the authority to limit the number of startups.

Given a worst-case projected cold startup CO emission rate of 327.59 lb/hr and a worst-case cold startup duration of 3.5 hours, WEC would emit 837 tpy CO during startup conditions in the event the facility experienced one cold start per day. Both the extent and duration of startup emissions are limited in the WEC PSD permit through practically enforceable conditions. See Finding 11.1.2 and 6.2.2.1.

837 tpy = (4 CTs)(365 days/yr)(3.5 hr/day)(327.59 lb/hr)(ton/2000 lb)

In comparison, ODEQ indicates that the similarly sized COB Energy Facility (COB) would only emit 211 tpy given 250 startups per year. ODEQ's Review Report in support of its December 30, 2003 PSD permit to COB reveals that a CO emission factor of 422.5 lb/startup or shutdown was utilized to calculate the 211-tpy estimate.

211 tpy = (4 CTs)(250 starts/yr)(422.5 lb/start)(ton/2000 lb)

WEC is not allowed to emit CO in excess of 328 lb/hr during startup or shutdown. At this emission rate, Diamond has demonstrated that it will not cause or contribute to a NAAQS violation. In contrast, it does not appear that the COB permit contains practically enforceable conditions limiting the duration or extent of startup emissions protective of the NAAQS. Diamond demonstrated that its worst-case CO emissions (328 lb/hr) will not have a significant ambient impact as illustrated in the following table:

Wanapa Energy Center Ambient CO Impacts During Startup

Averaging Period	Maximum Modeled Concentration ($\mu g/m^3$)	Modeling Significance Level ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)
1-Hour	1,271.84	2,000	40,000
8-Hour	356.27	500	10,000

Comment 6: Explain how the 1.98 g/sec CO emission rate in Table 5-4 of EPA's preliminary TSD is calculated and why this number was chosen to represent the worst-case CO emissions from each CT/HRSG-DB. Reconcile this 1.98 g/sec CO emission rate with the facility's allowable emissions of 933 TPY.

Response 6: Diamond originally submitted an application assuming a 3.0 ppmdv CO BACT determination for normal operation (outside startup, shutdown, or malfunction). This CO exhaust gas concentration correlates to a 15.75 lb/hr (1.98 g/sec) mass emission rate assuming maximum operation of CT and HRSG-DB with an ambient temperature of 52.2°F. This scenario creates the worst-case CO impacts during normal operation.

1.98 g/sec = (15.75 lb/hr)(kg/2.205 lb)(1000g /kg)(hr/60 min)(min/60 sec)

Although Diamond subsequently revised the BACT analysis to reflect a lower 2.0 ppmdv CO BACT determination for each CT/HRSG-DB, Diamond did not revise the AAQIA. The application continued to demonstrate that ambient air quality standards would be protected under worst-case normal operating conditions characterized by a 1.98 g/sec mass emission rate. The WEC, however, is not allowed to emit greater than 1.32 g/sec at maximum operation and 52.2°F given a 2.0 ppmdv CO BACT limit in Approval Condition 11.1.1.

Under worst-case startup conditions, EPA is permitting a CO mass emission rate of 328 lb/hr (41.28 g/sec) as explained above.

See page 62 in §8 of the preliminary TSD for the calculation supporting the "933 TPY" CO emissions projection. This "933 TPY" value is not a permit limit; it is a projection of worst-case emissions considering one cold start per day. For purposes of this analysis, it is assumed that a cold start is preceded by 8 hours of idle operation and proceeded by 12.5 hours of maximum CT/HRSG-DB firing with an outside temperature of 52.5°F.

CO = SHUTDOWN + COLD START + CT & DB COMBINED FIRING

= [365 day/yr][(8 hr/day)(0 lb/hr) + (3.5 hr/day)(327.59 lb/hr) + (12.5 hr/day)(10.5 lb/hr)] / 2000 lb/ton
= 233.2 ton/yr x 4 CT/HRSG-DB
= 933 tpy

Comment 7: EPA incorrectly concluded that ten-year old PM_{10} and NO_2 monitoring data from Boardman, Oregon is representative of existing ambient air quality in the area. As such, at least one year of representative PM_{10} and NO_2 monitoring data should be collected before construction of WEC is allowed to begin.

Response 7: PSD permit applications must contain an air quality analysis to demonstrate that the proposed facility's emissions will not cause or contribute to a violation of a NAAQS standard and/or any other maximum allowable increase. Pursuant to 40 C.F.R. § 52.21(m)(1)(iii), this analysis is required to contain continuous air quality monitoring data to assess existing air quality in the area to be impacted by the proposed facility. See also CAA § 165(e)(2). Continuous air quality monitoring data, however, is not required where the "new emissions proposed by the applicant would cause impacts less than the significant monitoring concentrations …." Ambient Monitoring Guidelines for Prevention of Significant Deterioration at p. 5, dated May 1987 ("Ambient Monitoring Guidelines"). Only WEC's PM_{10} impacts were predicted to exceed the significant monitoring concentration; thus, only continuous monitoring data for PM_{10} is required pursuant to 40 C.F.R. § 52.21(m). See TSD at p. 44, Table 5-8.

In general, continuous air quality monitoring data must be "gathered over a period of at least one year and represent at least the year preceding receipt of the application …." 40 CFR § 52.21(m)(1)(iv). This requirement can be satisfied by either conducting preconstruction ambient air monitoring or utilizing existing air quality data that is representative of the proposed project area. See New Source Review Workshop Manual at p. C.18-C.19, dated November 1990 ("NSR Workshop Manual").

Here, the TSD concluded that:

> "[p]reconstruction monitoring data is needed to establish the existing air pollutant concentrations in the [proposed project] area. USEPA has the discretion to use existing representative air quality measurements in lieu of preconstruction monitoring data …. In this case, [EPA] has determined that the existing NO_2 and PM_{10} measurements at Coyote Springs [*i.e.*, Boardman, Oregon] are adequate to represent existing air quality levels or background, in the project area …."

TSD at p. 44.

In determining whether the existing data is representative of existing air quality, the Ambient Monitoring Guidelines suggest the use of three factors: monitoring location, data quality, and use of current data. See Ambient Monitoring Guidelines at p. 6; see also NSR Workshop Manual at p. C.19.

With regard to monitoring location, the existing data should be representative of three types of areas: (1) the location(s) of maximum concentration increase from the proposed source or modification; (2) the location(s) of the maximum air pollutant concentrations from existing sources; and (2) the location(s) of the maximum impact area. See Ambient Monitoring Guidelines at p.6. EPA has determined that this factor is satisfied because both areas are rural, have similar topography, have similar land use and climate, and are located in the same airshed.

The existing data meets the data quality requirements contained in 40 CFR Part 58, Appendix B, and thus meets the factor relating to data quality..

With regard to currentness of the data, "generally … data must have been collected in the 3-year period preceding the permit application …." Ambient Monitoring Guidelines at p. 9. Although the data was not collected within the three years preceding Diamond's permit application, EPA believes that the existing data is nonetheless representative of the WEC project area.

To further illustrate that the Coyote Springs ambient air quality data is representative, EPA conducted a focused screening analysis in response to ODEQ's comment to determine the concentration increases in the WEC area, if any, resulting from industrial development since 1996. EPA accomplished this analysis using quantifiable emissions from new sources that began operation in the area from 1996 to 2001. The year 1996 represents the first full calendar year after the air quality measurements at Coyote Springs while 2001 represents the first full calendar year prior to the final May 2002 modeling protocol submitted to EPA.[19] The objective of the analysis was to determine the PM_{10} contributions from those new operating sources located within the WEC significant impact area at a hypothetical monitoring station site and in ambient air. The hypothetical monitoring station site represents the approximate area of the maximum 24-hour and annual average PM_{10} concentration locations.

The emissions inventory for the modeling analysis consisted of three sources. During the six year period, the only source inside the significant impact area that added actual emissions to the area was Hermiston Generating. Also inside the significant impact area was Hermiston Power Partnership; but it started operations in 2002 and was not included in the analysis. Although outside of the significant impact area, both the Portland General Electric (PGE) Boardman and Coyote Springs power plants were included in the inventory. PGE Boardman was added because of its increase in actual emissions by about a factor of three during the period. Emissions from the PGE Coyote Springs power plant was added because it came on line in the mid to late 1990's and could have potential downwind impact. The 2001 actual emissions for these three sources were obtained from an in-house State of Oregon emissions inventory, a Boardman inspection report, and from an EPA ACID Rain Program web site.

[19] Utilizing 2001 calendar-year emissions, rather than 2002, is conservative in that emissions from PGE Boardman, PGE Coyote Springs, and Hermiston Generating were greater in 2001.

The conservative SCREEN3 modeling results demonstrated that the contributions of PM_{10} concentration increases from the three power plants are not significant at the hypothetical monitoring station site. Specifically, the total increase in predicted concentration are 1 $\mu g/m^3$ for 24-hour PM_{10} and less than 0.5 $\mu g/m^3$ for annual average PM_{10}. For the PGE Boardman power plant, EPA elected to model their 2001 total actual emissions rather than the emission increase (i.e., 2001 actual emissions minus 1995 actual emissions) so that the predicted concentrations would be conservative. These modeling results are consistent with judgments made about the representativeness of the Coyote Springs data.

Population in Umatilla County has increased 19.1% between 1990 and 2000. See U.S. Census Bureau at http://quickfacts.census.gov/qfd/states/41000.html. Emissions increases associated with increased populations may have occurred. The impact of these emissions, if any, at the hypothetical monitoring station site are expected to be negligible.

In EPA's technical judgment, the use of the 1994 to 1995 Coyote Springs measured data meets the three representativeness standards.

Comment Letter 6: Suzanne L. & Robert T. Keys

Comment 1: I am opposed to WEC given that there is minimal local benefit compared to the cost to the community in terms of potential pollution, climate effects, and esthetics.

Response 1: See response to General Comment 2.

Comment 2: I am opposed to WEC given that adequate monitoring systems are not in place at the facility to effectively monitor the system.

Response 2: See response to General Comment 11.

Comment 3: I am opposed to WEC given that equipment installed at the facility will not be disassembled and removed from the property after the facility shuts down.

Response 3: See response to General Comment 2.b.

Comment Letter 7: Terry Golter, DVM

Comment 1: WEC will decrease airshed capacity available for future development.

Response 1: See response to General Comment 2.c.

Comment 2: WEC will limit water available for future growth.

Response 2: See response to General Comment 9.

Comment 3: How do WEC air pollutant emissions compare to a modern coal-fired power plant, McNary Dam, and wind generators?

Response 3: See response to General Comment 12. McNary Dam and wind generators generate no air pollutant emissions.

Comment 4: Adequate consideration has not been given to deleterious effects on wetlands, nesting areas, and young waterfowl between Umatilla and Hat Rock State Park.

Response 4: See response to General Comment 10. Moreoever, it should be noted that BIA's Final EIS, as well as the BIA ROD, considered effects on wetlands, nesting areas and young waterfowl between Umatilla and Hat Rock State Park. See Final EIS at § 3.4.

Comment 5: Ambient ozone measurements in Klickitat County, Washington indicate high concentrations approaching the NAAQS. This information should not be relevant to EPA's decisionmaking for the WEC application given the distance between Klickitat County and the project site. What is EPA's position on this matter?

Response 5: See response to General Comment 3.b and 4.c.

Comment 6: Ambient $PM_{2.5}$ measurements in Pendleton should not be relevant to EPA's decisionmaking for the WEC application given the distance between Pendleton and the project site. What is the EPA's position on this matter?

Response 6: See response to General Comment 3.a and 4.b.

Comment 7: Meteorological measurements from Spokane, Washington should not be utilized within EPA's ambient impact analysis for this project given the distance between Spokane and the project site. What is the EPA's position on this matter?

Response 7: See response to General Comment 4.a.

Comment 8: Visual impacts have not been adequately addressed. Residents of Salmon Point Lane and Hat Rock can certainly assure EPA that the WEC structures and emissions will have a much larger effect than 5% on the pristine quality of the view of the Columbia River and gorge between Hat Rock and WEC. What is the EPA's position on this matter?

Response 8: See response to General Comment 7.

Comment 9: Has any consideration been given to the effect on river tours, Lewis & Clark Trail, and the general industrial impact this project will have on recreation, tourism and the aesthetics of the area?

Response 9: See response to General Comment 2.

Comment 10: Where is the public good of this project? WEC, being built on sovereign ground, will result in no public benefit, and will put a demand on local infrastructure.

Response 10: See response to General Comment 1 and 2.

Comment Letter 8: Marry Lynn Golter

Comment 1: Ambient O_3 monitoring should be conducted near the project site before approval is granted. The closest O_3 monitoring in Klickitat County, Washington indicated ambient concentrations approaching the NAAQS. Klickitat County is a considerable distance from the project site. Considering that emissions from power plants in the local area will contribute further to O_3 formation, it is appropriate to conduct ambient O_3 monitoring near the project site.

Response 1: See response to General Comment 3.b and 4.c.

Comment 2: Our weather in this area is a concern to me. It is my understanding that these plants can produce changes in our habitat. With three plants in the area, my concern is our ability to develop agriculture and continue the crops we have. Hermiston depends on agriculture for its economy.

Response 2: See response to General Comment 8.a.

Comment 3: Meteorological measurements from Spokane, Washington should not be utilized within EPA's ambient impact analysis for this project given that Hermiston experiences different weather than Spokane.

Response 3: See response to General Comment 4.a.

Comment 4: The $PM_{2.5}$ monitor in Pendleton is all right, but I question whether this is also too far away to give an accurate reading for the Hermiston area. If this proposal is to be granted, I think more monitoring in the Hermiston area should be addressed first.

Response 4: See response to General Comment 3.a, 4.b, and 5.

Comment Letter 9: Tammy L. Dennee, Oregon Wheat Growers League

Comment 1: On December 2, 2004, NOAA Fisheries determined that WEC would pose no harm to anadromous salmonids or designated critical habitat. On November 18, 2004, FWS determined that WEC would pose no harm to trout and bald eagles. These decisions by NOAA Fisheries and FWS circumvent current regulations and restrictions protecting endangered species and habitat.

Response 1: The determinations made by FWS and NOAA Fisheries (the Services) were based on information provided in the BA's based on the requirements of the ESA. These agencies are ultimately responsible for their own decisionmaking.

See also response to General Comment 9.

Comment 2: It is unconscionable that where matters of endangered species are at play, a double standard would emerge which farmers or other developers would never enjoy.

Response 2: See response to General Comment 13.

Comment 3: A special "hold harmless provision" should be crafted for producers in this region affording them the right to continue their current farming practices, without EPA or ODEQ interference, should this airshed fail to attain the NAAQS. Such a provision would provide certainty to producers that their livelihoods will not be harmed by EPA's approval of WEC. EPA should not approve WEC and its impact upon the airshed if the elimination of local farmers is ultimately a likely consequence.

Response 3: Under the CAA and its implementing regulations, EPA does not have the authority to include a special "hold harmless provision" in a PSD permit. See response to General Comment 8.b.

Comment 4: EPA decisionmaking should adequately weigh both the cumulative effects of this power generating facility to the airshed, as well as the potential impacts to the health of the citizens who currently call this region home.

Response 4: See response to General Comment 4.d, 6, and 8.b.

Comment Letter 10: Floyd Turnbull

Comment 1: The local community suffers from adverse weather conditions. For example, inversions periodically stretch from Boardman to the east side of Hermiston during winter. WEC and its massive steam plumes will do nothing to improve these types of adverse weather conditions.

Response 1: See response to General Comment 7.

Comment 2: WEC would sit directly adjacent to the Wanaket Wildlife Management Area and within the bounds of a major migratory pathway. WEC's air pollutant emissions and associated acid rain formation will have an effect on the Columbia River, salmon habitats, and Bald Eagles around Hat Rock State Park. The extent of WEC's effect is unknown.

Response 2: See response to General Comment 9 and 10.

Comment 3: EPA's proposed permitting decision is being supported, in part, by $PM_{2.5}$ and O_3 ambient monitoring data gathered from distant locations. The $PM_{2.5}$ data is provided by a monitor in Pendleton, and the O_3 data is provided by a monitor in Klickitat County, Washington. Each of these monitoring stations is reporting much cleaner air than the local area is actually experiencing. Current and persistent weather patterns observed in the local area suggest that the use of this distant ambient data invalidates EPA's ambient air quality analysis.

Response 3: See response to General Comment 3.a, 3.b, 4.b, and 4.c.

Comment Letter 11: Rick Latham

Comment 1: What are the health impacts on Umatilla County residents resulting from WEC air pollutant emissions? What is going to happen to our airshed?

Response 1: See response to General Comment 6 and 8.b.

Comment 2: Will WEC be paying taxes on this project? Who is paying the taxes for this project?

Response 2: See response to General Comment 2.a.

Comment 3: Where is the pipeline for this project going to be located?

Response 3: BIA's Final EIS discusses the location of the natural gas pipeline for WEC. According to the Final EIS, the pipeline will run from WEC to the Stanfield Compressor Station.

Comment 4: Will there be any effects on farm ground resulting from the drainage pattern established for WEC? If so, what do you think the effect will be to my farm?

Response 4: In issuing PSD permits, EPA is required to evaluate Diamond's permit application for WEC in accordance with the CAA and its implementing regulations. An analysis of the drainage patterns is not a factor that EPA can consider in conducting this evaluation. However, BIA's Final EIS does contain a discussion of storm water management practices that Diamond will implement at WEC. See Final EIS at § *3.3*

Comment 5: Will crops from local farmers be affected or harmed in any way from the pollutants emitted by WEC such as, NO_X, CO, SO_X, PM_{10}, VOC, or acid rain? What damage will the emissions do to my crops? Will the land ever be a great source of soil again?

Response 5: See response to General Comment 8.a.

Comment 6: How can PGE's Boardman coal-fired power plant not cause any premature deaths or other related damage to the Morrow and Umatilla County airshed, yet a John

Deere tractor's air pollutant emissions threaten so many lives? Is WEC less harmful than a single John Deere tractor?

Response 6: Emissions from PGE's Boardman facility are presented in response to General Comment 12. EPA regulates coal-fired power plants differently from non-road diesel engines as directed by Congress. See Comment Letter 1, Response to Comment 8.

Comment 7: The applicant will be utilizing public roads to build WEC. Who will be paying the taxes on the roads?

Response 7: See response to General Comment 2.a.

Comment 8: Is this really the best place for WEC? Where is the majority of the power going?

Response 8: See response to Comment Letter 1, Response to Comment 6.

Comment Letter 12: Kyla Latham

Comment 1: I am concerned about the impact WEC will have upon the local airshed. What effect will WEC have upon our visibility?

Response 1: See response to General Comment 7.

Comment 2: Will WEC air pollutant emissions harm land, crops, people, and animals?

Response 2: See response to General Comment 6, 8.a and 10.

Comment 3: Power plants have been linked directly to higher death rates in U.S. cities. In addition, EPA has listed power plants as a source of premature deaths. EPA, however, has failed to validate or document its methodology to support such claims.

Response 3: In issuing PSD permits, EPA is required to evaluate Diamond's permit application for WEC in accordance with the CAA and its implementing regulations. An analysis concerning the link between high death rates and power plants is beyond the type of evaluation that EPA can conduct at this time.

Comment 4: Can the EPA assure Umatilla County residents that the water WEC expects to discharge back into the Columbia River will not harm the salmon or any other part of the river?

Response 4: See response to General Comment 9 and 10.

Comment 5: Eight fossil fuel-fired power plants and thousands of nonroad heavy duty diesel engines will be operating in Umatilla and Morrow County. Why has there not been a cumulative air quality impact study performed without modeling?

Response 5: See response to General Comment 4.d.

Comment 6: Will the Highway 730 desert area, north and south of the highway in Umatilla County, turn into a marshy wetland ruining the Wanaket Wildlife Management Area? Can EPA assure that the land and animals surrounding WEC (including the animals in the Wanaket Wildlife Management Area) will not be harmed by the discharge of air pollutants and acid rain from WEC?

Response 6: See response to General Comment 9 and 10.

Comment 7: Will the environment and the people of Umatilla County be safe from the discharge of air pollutants from the main stacks of the combustion turbines and duct firing units?

Response 7: See response to General Comment 6 and 10.

Comment 8: Will the residences and buildings in close proximity to WEC be exposed to an increase in electric and magnetic fields? If so, can EPA assure their safety?

Response 8: In issuing a PSD permit, EPA is required to evaluate Diamond's permit application for WEC in accordance with the CAA and its implementing regulations. Consideration of electric and magnetic fields is not part of this review process. However, BIA's Final EIS contains a discussion of the impacts of electric and magnetic fields that will result from the generation and transmission of electricity from WEC. See Final EIS at § 3.11.2.3.

Comment 9: Will local farmers be able to continue agricultural field burning if WEC is constructed and operating? If not, what suggestions can EPA offer as alternatives to field burning?

Response 9: See response to General Comment 8.b.

Comment 10: Local farmers are defending their practices under detailed examination. Why are fossil fuel-fired power plants not under such scrutiny?

Response 10: See response Comment Letter 1, Response to Comment 8.

Comment 11: Why wasn't there any industry representation at the air quality meetings held in Umatilla County? Questions presented to EPA at the meetings were not answered. EPA is not prepared to proceed in the permitting of WEC.

Response 11: EPA conducted a public hearing on January 5, 2005 in Hermiston to receive the community's input on EPA's November 23, 2004 preliminary decision and proposed PSD permit for WEC. Prior to the start of the public hearing, EPA provided a presentation describing EPA's preliminary decision and proposed PSD permit. EPA

responded to all questions from the community throughout the presentation. To allow the public additional time to comment on the proposed Permit, the public comment period was extended to January 19, 2005.

Diamond and its agents attended the public hearing, and provided some input during the discussion period. Diamond is not legally required to participate in the public hearing.

After reviewing the public's comments to the proposed Permit, EPA is now prepared to respond to the comments and finalize the Permit.

Comment 12: EPA has not appreciated WEC's impact upon the local community. Given WEC's permanent impact upon noise, tax base, visible effects, road usage, water loss, and air pollution, it is surprising that EPA has not more thoughtfully considering local input so that the project might overall benefit the people of Umatilla County.

Response 12: See response to General Comment 2, 6, 7, 9, and 10.

Comment 13: BACT is based upon a facility's reasonable economic cost for control technology. Does EPA know what control efficiencies these technologies have actually achieved? BACT is not a good source of information.

Response 13: EPA has provided a detailed BACT analysis for WEC in the TSD. The BACT analysis is required by the CAA and the PSD regulations.

Comment 14: Who is actually benefiting from WEC? The project is not in the overall public interest. Perhaps there is a better time and place for WEC.

Response 14: See response to General Comment 1 and 2.

Comment Letter 13: Emille M. Holmeman & Dennis D. Doherty, Umatilla County Board of Commissioners

Comment 1: WEC has the potential to preclude future private development based on the power plant's impact on the regional airshed. WEC will place a private-sector company at a competitive disadvantage for complying with future federal air standards.

Response 1: See response to General Comment 2.c.

Comment 2: WEC will have a potential negative human health impact given the plant's impact upon the airshed.

Response 2: See response to General Comment 6.

Comment Letter 14: Joyce Langley

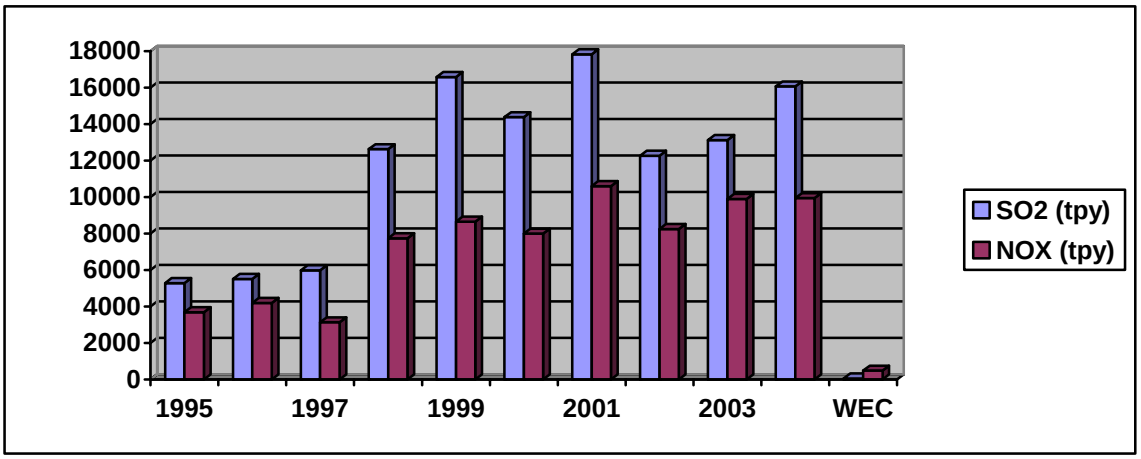
Comment 1: EPA is unable to estimate the human health impact of local power plant emissions.

Response 1: See response to General Comment 6.

Comment 2: Will there be an increase in emission from WEC similar to the increase experienced at the Boardman coal-fired power plant?

Response 2: As illustrated in the chart below, the airshed will not experience an increase in emissions similar to that of the Boardman coal-fired power plant.

Portland General Electric Boardman Actual Emissions: 1995 – 2004[20]
Vs
Wanapa Energy Center Worst-Case Emissions



PGE Boardman produces approximately 585 MW of electricity from the combustion of coal while WEC may produce up to 1,200 MW of electricity from the combustion of natural gas. Yet, as the above graph indicates, the PGE Boardman facility has produced emissions since 1995 ranging from 5,000 to 18,000 TPY SO_2 and 3,000 to 10,000 TPY NO_X. Meanwhile, WEC is being permitted for maximum potential worst-case emissions of 57 TPY SO_2 and 486 TPY NO_X.

Comment 3: On a typical calm and warm day, how high and wide will the plume of air pollutant emissions travel?

Response 3: For a typical calm and warm day, the meteorological conditions would be very light winds and strong to moderate incoming solar radiation. Specifically, the atmosphere would be classified as A stability with a wind speed of 1.0 meters per second. Using this set of conditions and WEC stack parameters identified on Table 5-5 in §5.2.7

[20] PGE Boardman emissions data provided by EPA's Clean Air Market Division.

of the preliminary TSD, the calculated lateral and vertical extent of the plume are shown below at specific downwind distances from WEC.

Downwind Distance (m)	Plume Height (m)	Lateral Extent (m)	Vertical Extent (m)
30	951.2	30.11	29.05
60	951.2	41.26	38.58
90	951.2	55.01	50.88
120	951.2	67.56	62.05
150	951.2	79.32	72.51
180	951.2	90.49	82.48
210	951.2	101.20	92.06
240	951.2	111.54	101.38
270	951.1	121.56	110.61
300	951.2	131.32	119.77
805 (0.5 miles)	951.2	273.50	356.83
1609 (1.0 miles)	951.2	406.59	1267.45
3218 (2.0 miles)	951.2	633.41	5000.00

The AERMOD Modeling System is limited to 50 km. For long-range transport, the CALPUFF Modeling System can be used to quantify concentrations (and visibility impacts) out to several hundred km. Subsection 5.5 of the preliminary TSD discussed Class I area air quality increments quantified at downwind distances of 133 to 195 km from WEC using the CALPUFF Modeling System.

Comment 4: While ambient air pollutant monitoring equipment is employed in Pendleton and the Tri-Cities, no such equipment is employed in either Umatilla or Hermiston. Data from Pendleton and the Tri-Cities is not representative of air quality in either Umatilla or Hermiston, and therefore should not be considered in EPA's decisionmaking for WEC.

Response 4: See response to General Comment 3.a, 4.b, and 5.

Comment 5: WEC's proposed air pollutant emissions are greater than any of the existing four fossil fuel-fired power plants in Umatilla County. In consideration of their health, the residents of Umatilla County do not want to breathe air pollutant emissions from WEC.

Response 5: See response to General Comment 6 and 12.

Comment 6: Umatilla County residents are being asked to endure health-related impacts resulting from WEC's emissions. These emissions contribute to downwind formation of ozone, smog, and acid rain.

Response 6: See response to General Comment 6.

Comment 7: WEC will generate no tax dollars to Umatilla County; to the Education District; the Fire District; and to the State of Oregon.

Response 7: See response to General Comment 2.a.

Comment 8: Characterize the water quality of the plant's effluent as it is discharged to either the Columbia River or the Cold Springs Reservoir.

Response 8: See response to General Comment 9 and 10.

Comment 9: Explain WEC's impacts upon the fish and other wildlife that depend upon the Cold Springs Reservoir in the event WEC's effluent is discharged to this water body.

Response 9: See response to General Comment 9 and 10.

Comment 10: Explain WEC's impacts upon irrigation water and soil in the event WEC's effluent is discharged to the Cold Springs Reservoir.

Response 10: See response to General Comment 8.c, 9, and 10.

4. RESPONSES TO ORAL COMMENTS - JANUARY 5, 2005 PUBLIC HEARING

Commentor 1: Philip B. Hamm

Comment 1: It makes little sense to utilize O_3 monitoring data from Klickitat County, Washington and $PM_{2.5}$ monitoring data from Pendleton to determine the resultant ambient pollutant concentrations in the area surrounding WEC. Prior to approving this project, additional monitoring should be conducted in the immediate area surrounding WEC to determine background pollutant concentrations. Given that background O_3 concentrations may already be approaching the NAAQS and given the permanence of WEC once constructed, this is a very important issue to resolve prior to approval.

Response 1: See response to General Comment 3.a, 3.b, 4.b, 4.c, and 5.

Comment 2: Has EPA permitted any other facilities on sovereign ground within the Pacific Northwest? If so, has EPA applied additional rules during the permitting process? If WEC is unique in this respect, then why not consider issues related to its location on sovereign ground and the overall public good in determining whether or not to grant approval for WEC?

Response 2: EPA has not previously issued a PSD permit to a facility on sovereign ground in the Pacific Northwest. See also response to General Comment 1.

Comment 3: It makes little sense to utilize meteorological data from far away in predicting WEC's air pollutant impacts in the local area. This data should be measured and collected in the local area and subsequently utilized to predict WEC's impacts. Given the permanence of WEC once constructed, this is a very important issue to resolve prior to approval.

Response 3: See response to General Comment 4.a.

Comment 4: EPA should consider the overall public good when determining whether or not to grant approval for WEC given its location on sovereign ground. Electricity production should not be considered in this decisionmaking given that the local area has access to plenty of local electricity production already. Employment should not be considered in this decisionmaking either given the relatively small number of employees WEC intends to hire.

Response 4: See response to General Comment 1.

Commentor 2: Kent Madison

Comment 1: It makes little sense to utilize ozone monitoring data from Klickitat County, Washington and $PM_{2.5}$ monitoring data from Pendleton to determine the resultant ambient pollutant concentrations in the area surrounding WEC. Prior to approving this

project, additional monitoring should be conducted in the immediate area surrounding WEC to determine background pollutant concentrations. Given that background ozone concentrations may already be approaching the NAAQS and given the permanence of WEC once constructed, this is a very important issue to resolve prior to approval.

Response 1: See response to General Comment 3.a, 3.b, 4.b, 4.c, and 5.

Comment 2: EPA should not grant approval of WEC given that the project will not pay county taxes. The local community is providing a portion of its airshed capacity, natural gas capacity, BPA transmission capacity, and visibility esthetics value. The local community is getting nothing in return.

Response 2: See response to General Comment 1, 2, and 6.

Comment 3: EPA should not grant approval of WEC. WEC's consumption of airshed capacity will limit the local community's ability to attract potential tax-paying businesses to the area.

Response 3: See response to General Comment 2.c.

Commentor 3: Dennis Tillot

Comment: I support the project. The EPA has developed an adequate record to support its proposed decision to grant approval for WEC.

Response: No response necessary.

Commentor 4: Lloyd Piercy

Comment 1: WEC does not serve the public good. WEC will use roads and services funded by local taxpayers, and WEC will not itself pay local taxes. WEC will use the local airshed without providing a benefit. Overall, the negative aspects of the project outweigh the positives.

Response 1: See response to General Comment 2.

Comment 2: Putting warm or hot water back into the Columbia River is probably not wise.

Response 2: See response to General Comment 9.

Comment 3: WEC's H_2SO_4 and NO_X emissions will have an adverse affect upon wetlands and step desert habitat surrounding the plant.

Response 3: See response to General Comment 10.

Commentor 5: Patricia Maier

Comment: EPA should provide additional information with respect to the ambient air pollutant monitoring that has already been performed. In order to get a better understanding of local air quality, a monitor should be moved to Hermiston and operated while the local power plants are running. Monitoring air quality around Hermiston will provide the community with information to determine whether or not we are being protected.

Response: See response to General Comment 3.a, 3.b, and 5.

Commentor 6: Jason S. Torres

Comment 1: EPA does not intend to require WEC to continuously monitor PM_{10} emissions exiting the CT/HRSG stacks. This is bad scientific policy. Consider the ammonium nitrate that combines with SO_2 to form acid rain. Collecting PM_{10} emissions data continuously is good for future study purposes.

Response 1**:** No continuous monitoring is proposed for PM_{10} for several reasons. The primary reasons are that the PM_{10} emission concentrations from the CTs and DBs are very low compared to other combustion sources, and there is no add-on control technology for PM_{10} that must be continuously monitored to insure adequate performance. CEMS technology for PM_{10} does exist that could be required. PM CEMS have the capability of measuring down to the level expected in the exhaust stack from a gas-fired CT. However, the cost of PM CEMS is quite high; on the order of $75,000 to $100,000 for initial capital cost and $30,000 to $40,000 per year for operating and maintenance cost for each unit. EPA does not think it is necessary or cost effective to require PM CEMS for the CTs at WEC.

One other PM_{10} monitoring technology that could be used is a type of triboelectric detector typically used as a bag leak detector on baghouse control devices. Triboelectric detectors give a relative indication of PM_{10} concentration. Therefore, this type of CEMS is useful for detecting changes such as an upward trend of the baseline PM_{10} emissions or a spike in emissions due to a malfunction (for example, an oil seal leak into the combustion gas stream). One vendor provides a system using a wire rope assembly that extends across the stack. The triboelectric CEMS are less expensive than other PM CEMS, on the order of $5,000 to $20,000 for the equipment plus installation cost. Triboelectric CEMS are primarily used downsteam of an air pollution control device in order to detect deterioration in the control efficiency or a larger failure of the control device that would result in a significant increase in emissions. In the case of CTs and DBs, EPA does not think that there is sufficient likelihood of an increase of PM_{10} emissions over time to warrant requiring installation of a triboelectric CEMS.

Comment 2: The utilization of meteorological data from Spokane, Washington in conducting the ambient air quality analysis for WEC is inappropriate. Data gathered from Spokane is not representative of local weather conditions. Temperatures can vary between Hermiston and Pendleton. Atmospheric conditions can vary wildly just between

Hermiston, Tri-Cities, and Pendleton. EPA is failing to take into consideration the effect dust storms will have upon WEC's downwind impact.

Response 2: See response to General Comment 4.a.

Comment 3: EPA has not fully considered the cumulative effect of all permitted power plants in the area with respect to air quality. EPA has also not considered in its ambient air quality analysis the emissions resulting from all the heavy agricultural activities, including diesel engines, tractors, and trucks that don't meet certain air pollution standards that would normally be required in large metropolitan areas.

Response 3: See response to General Comment 4.d.

Comment 4: EPA has not fully considered the cumulative effect of all permitted power plants in the area with respect to water.

Response 4: See response to General Comment 9.

Comment 5: EPA has not taken into account the health effects that my family will be experiencing. My family is located directly downwind of WEC thirty-six percent of the time. My family will be breathing WEC emissions for roughly a third of the year. EPA has also not taken into account the exposure of the people at Hat Rock.

Response 5: See response to General Comment 6.

Comment 6: EPA has not taken into account WEC's visual impact.

Response 6: See response to General Comment 7.

5. CHANGES TO THE FINAL PERMIT APPROVAL

A. In response to Comment Letter 5, Comment 4, the following change is being made to the proposed permit with respect to the prescribed PM_{10} Stack Test Method:

APPROVAL CONDITIONS

12.2.1 Conduct a performance test in accordance with an EPA-approved stack test protocol incorporating the following methods:

12.2.1.1 EPA Reference Method 5 or 5I ~~Method 201 or 201A~~ to capture filterable PM_{10}, and EPA Reference Method 202 to capture condensible PM_{10}, or EPA Conditional Test Method 39.

B. In response to General Comment 5, the following conditions are being added to the proposed permit with respect to post-construction monitoring:

APPROVAL CONDITIONS

23 Post-Construction Ambient Monitoring

23.1 WEC shall install, operate, and maintain a continuous non-filter based ambient air quality monitoring station for $PM_{2.5}$, in accordance with EPA, 1984a: Ambient Monitoring Guidelines for Prevention of Significant Deterioration (PSD), EPA-450/4-87-007, May 1987, U.S. Environmental Protection Agency, Research Triangle Park, NC. The monitoring period shall commence within 90 days after the completion of construction and start-up or after commercial operation, which ever is later, and shall continue for a minimum of 1 year and a maximum of 2 years form the date first readings are taken. The data recovery should be at least 80 percent of the data possible for each air pollutant during each 1-year monitoring period. The monitoring station shall continue to operate and record data for a minimum of 1 year, at which time WEC will notify EPA in writing of WEC's intent to terminate operation of the monitoring station; however monitoring station operation will continue until such time that written approval is obtained from EPA authorizing the termination of its operation, such authorization of termination of operation of the monitoring station will not be unreasonably withheld and in any event the termination of operation of the monitoring station can occur unilaterally at WEC's discretion on or after 2 years of operation.

23.2 WEC shall install, operate, and maintain a meteorological monitoring station to monitor and record data in accordance with EPA, 1987b: On-Site Meteorological Program Guidance for Regulatory Modeling Application, EPA-450/4-87-013, June, 1987, U.S. Environmental Protection Agency, Research Triangle, N.C. Data shall include horizontal wind speed and direction, temperature, solar radiation and delta-T. Each quarter's data recovery should be at least 90 percent of the data possible for each variable measured during each 1-year monitoring period. The monitoring period shall commence within 90 days after initial the completion of construction and start-up or after commercial operation, which ever is later, and shall continue for a minimum of one (1) year and a maximum of 2 years from the date first readings are taken.

The monitoring station shall continue to operate and record data for a minimum of 1 year, at which time WEC will notify EPA in writing of WEC's intent to terminate operation of the monitoring station; however monitoring station operation will continue until such time that written approval is obtained from the EPA authorizing the termination of its operation, such authorization of termination of operation of the monitoring station will not be unreasonably withheld and in any event the termination of operation of the monitoring station can occur unilaterally at WEC's discretion on or after 2 years of operation.

23.3 At least 60 days prior to the scheduled completion of construction, WEC shall submit to EPA for approval an ambient air quality and meteorological monitoring plan for the post-construction monitoring requirements specified in Conditions 23.1 and 23.2 in accordance with EPA, 1993b: Requirements for Quality Assurance Project Plans for Environmental Data Operations (QA/R5) July, 1993, U.S. Environmental Protection Agency, Quality Assurance and Management Staff, Washington, DC. The plan shall include the proposed siting location(s). EPA shall provide WEC EPA's approval of or comments to the ambient air quality and meteorological monitoring plan no later than 30 days prior to the scheduled completion of construction.

23.4 WEC shall submit on a monthly basis, a printed or electronic summary of the ambient air quality and meteorological monitoring data collected in each calendar month. The summary shall be submitted within 60 days after the end of each calendar month.

23.5 WEC shall submit audit reports within 60 days after the following events:
23.5.1 Completion of the post-installation equipment audit;
23.5.2 Completion of the independent performance and system audits;
23.5.3 Completion of the quarterly audits required for the ambient air quality data collection system; and
23.5.4 Completion of the semi-annual audits required for the meteorological data collection system.
Quarterly and semi-annual audit periods shall be based on periods of three and six calendar months commencing with the first complete calendar month of collected data.

23.6 Within 90 days after the end of each year of collected data and following the completion of the collection of monitoring data, WEC shall submit to EPA annual/final reports in text (i.e., summary), tabular, and graphic forms, including data in digitized format. The digitized form of the measured air quality and meteorological data shall be in (1) EPA Aerometric Information and Retrieval System format and (2) ASCII format accessible by an IBM compatible PC.

23.7 Within 90 days after completion of data collection, WEC shall also submit the final report for the system and performance audit required prior to monitoring termination.

C. The following change is being made to the proposed permit to address a typographical error regarding a reference to the procedures to accurately measure the fuel flow rate and PM_{10} emission factors:

APPROVAL CONDITIONS

12.3 Continuous compliance with Condition 12.1 shall be demonstrated by calculating PM_{10} emissions pursuant to the following conditions:

12.3.1 Install and operate a fuel flow metering system satisfying the requirements of 40 CFR Part 75 to measure the amount of fuel being combusting in each CT and DB,

12.3.2 Calculate PM_{10} emissions based upon the measured fuel flow rate and EPA-approved PM_{10} emission factors developed pursuant to Condition 12.3.3 and 12.3.4 ~~11.3.3 and 11.3.4~~,

D. The following change is being made to the proposed permit to reflect EPA's $PM_{2.5}$ air quality designations for northeast Oregon and south central Washington air quality control regions effective April 5, 2005:

FACTS

2. …the ambient air in this region is either unclassifiable or attaining the national ambient air quality standards (NAAQS) for … particulate matter with an aerodynamic diameter less than 2.5 micrometers ($PM_{2.5}$)…~~With respect to the region's attainment of the 24-hr and annual NAAQS for particulate matter with an aerodynamic diameter less than 2.5 micrometers ($PM_{2.5}$), the State of Oregon has recommended to EPA that the region be designated attainment or unclassifiable.~~

3. …the ambient air in this region is either unclassifiable or attaining the NAAQS for … $PM_{2.5}$…~~With respect to the region's attainment of the 24-hr and annual NAAQS for $PM_{2.5}$, the State of Washington has recommended to EPA that the region be designated attainment or unclassifiable.~~

E. The following change is being made to the proposed permit to more accurately describe the WEC's steam cycle and water-cooled condensing system.

DESCRIPTION OF PROJECT

2. The design of the WEC… Steam exhausted by the ST is recycled back to the HRSG via a water-cooled condenser. The cooling water is supplied by the Columbia River and will experience approximately six cycles of regeneration through a cooling tower before discharge to the Cold Springs Reservoir. ~~Steam exhausted by the ST flows to a cooling tower, is condensed, and returned to the HRSG. Cooling tower water will be supplied from the Columbia River.~~